Visual Literacy in Communication: Designing for Development

by: Anne Zimmer and Fred Zimmer

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Anne Zimmer
and
Fred Zimmer

Literacy in Development

A series of training monographs
H.S. Bhola, Series Editor

**International Institute
for
Adult Literacy Methods**

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Literacy in development: a series of training monographs
Series editor, H. S. Bhola, Indiana University

Visual literacy in communication: designing for development

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Invitation to the reader

Reading a book can be like conversing with a knowledgeable friend. But it is a one-way conversation. The author speaks and his readers listen. Frequently, the author anticipates his reader's thoughts and answers his questions. Otherwise, these questions remain unanswered.

In order to assist the readers of this monograph, the International Institute for Adult Literacy Methods (IIALM) seeks to engage him in a dialogue. Today, we live in an age in which communications are rapid and not expensive. Therefore, we suggest that the reader send his questions to the IIALM, as well as any problems which might arise in the use of this monograph. If the Institute itself cannot help, it will endeavour to put the reader in touch with someone who can.

We want to know if you, the reader, are satisfied with this monograph. What we have set out to do is: (a) to create an understanding of visual literacy by showing the making of visuals and graphics as part of a process of communication designed to achieve both cultural continuity and change; (b) to suggest steps for planning and designing visual messages for functional literacy and development; and (c) to provide sufficient guidance to the reader to enable him to do something practical with the monograph in his working life.

Have we achieved these objectives? The Institute would welcome your verdict and would be pleased to share your opinions with the authors. *Write to: The Director, International Institute for Adult Literacy Methods, P.O. Box 1555, Tehran, Iran.*

The language of pictures: notes from the Editor

A literacy worker who understands his job well *cannot* then define it narrowly—that is, merely in terms of the teaching of reading, writing and arithmetic to illiterate adults. A functional literacy worker, while he is teaching the 3 Rs to adult groups, is also providing them with training in new economic skills. At the same time, he is arranging new social experiences and creating new modes of political education. He is intervening in the lives of people and in community structures in many different and important ways. He is being a culture-maker.

Culture-making is serious business. To meet the challenges of his new role of culture-maker the literacy worker would require knowledge and comprehension equal to his new image. The literacy worker must have visions that are global, and a sense of humanity that can accommodate all human beings. To great ends he must add effective means. He must not be naïve about the existing social, economic, political and institutional structures. He must have some understanding of how they are put together and how they might be renewed or changed to serve humanity. He must himself have economic literacy to understand how goods in a society are produced and distributed, and who labours for whom. He must have political literacy to understand how power is distributed in the society between classes and groups, and how it is maintained through institutions and individual endeavours. He must have organizational literacy to understand the behaviour of organizations so that he can create and manage systems of action, and cope with the institutions that he encounters. And, of course, he must have visual literacy to be able to read his own culture's visual idiom, to compare this visual idiom with others, including the predominant international ones, and to use visual messages for communication.

Visual literacy is especially important for the literacy worker as he engages in the tasks of teaching adult illiterates to read and write. A considerable part of the burden of teaching verbal literacy is carried on the shoulders of non-verbal—mostly visual—communication. Some methods of teaching people to read depend heavily on the association of words with pictures. Most literacy primers include graphic illustrations. Functional

literacy and other development communication programmes depend heavily on posters, flannelgraphs and flashcard sets. The literacy worker accepts, unquestioningly, the conventional wisdom that seeing is believing. Since pictures can be seen, he assumes that they must communicate information and beliefs to the adult illiterate looking at them. He realizes too late that pictures also need to be read; that those he has put in his primer, on drill cards, story posters, or on the flannelgraphs, are not always communicating the ideas he set out to teach.

There are numerous anecdotes circulating within the literacy subculture which tell of the dismay of literacy workers when they found out that the pictures they thought must surely communicate, did not communicate. Illustrations included in primers have often turned out to be nothing more than smudges of ink. Conceptions of perspective are not understood. The meaning of pictorial conventions is missed. The human head or hand without the whole body is seen by the adult illiterate as bloody and gory, or simply funny. They have never seen a smiling face that was not attached to a body, a mosquito 'that big', or a man who was carrying a mountain on his head. The African farmer shown in the chart is not black enough, so he is seen as a half-caste. The beautifully drawn posters celebrating the International Women's Year mean nothing at all to the group of adult women gathered for a literacy class in Iran, since the visual idiom is too classical or too modernistic. Pictures need explaining. Pictures need to be taught. It is not just some anecdotes such as these which tell us that pictures are not always understood by the people for whom they have been produced. There is considerable scientific research which says the same thing—people must be taught how to 'read' pictures. Researchers have, indeed, found that cultures have their own particular graphic idioms; people from different social groups and classes identify with different visual symbols and read them differently; visuals include special conventions which must be learned in order to understand them; and the composition of a picture can be so handled as to draw the viewer's attention to particular parts of the picture and in a particular order.

For the literacy worker himself, visual literacy is important. He must, of course, have visual literacy so that he can teach it to the adult groups he works with. Also, his understanding of visual literacy will illuminate the processes of learning to read and write with which he is more substantively concerned. The understanding that each culture has its own graphic idiom with its own rules should make the literacy worker sensitive to the structures of languages in general.

Anne Zimmer and Fred Zimmer have both been interested in visual design for years. Fred Zimmer is a professor of visual communication

design in the Industrial Design Department at The Ohio State University. Anne Zimmer is a communication researcher. Together they bring a formidable background of training and experience to the discussion of visual literacy and the design of graphic communications. Both have travelled extensively to various parts of the world and have spent a long period of time in India studying visual traditions at first hand.

The monograph, *Visual literacy in communication: designing for development*, as the name suggests, is about visual literacy, communication and visual design. It goes beyond mere definition and does more than provide a theoretical framework. The monograph relates to the practical concerns of designing culture-oriented visual materials for use in functional literacy and development communication in different cultures and countries. The guidelines are intended to be useful to all designers of visual materials whatever their cultural setting. The message is: Read your own culture and understand your own visual language as you design visual messages for use in your particular cultural setting.

The series of monographs of which this book is a part has been designed for middle-level literacy workers. We have had in view an individual who does not spend all his time planning and administering in the upper levels of bureaucracies, nor do we have in mind someone who spends most of his time working with individuals and groups in one particular community. We are thinking of a literacy worker who, as the head of, perhaps, a district-level programme, is in charge of a number of supervisors, extension workers, monitors and literacy teachers. Or, as a specialist, he is part of a team in charge of a national project and is specializing in a particular aspect of literacy work. In either case, we see him as a person with some autonomy in his work, a person who can apply some of the ideas he learns from these monographs without having to get too many orders and official clearances from the powers that be.

This particular monograph speaks directly to the artist and the designer of visual materials, but not to him alone. We recommend it to the user of visual materials, to the programme planner, to the literacy supervisor and to the administrator. The hope is that the monograph: (a) will help the artist in designing culture-oriented materials; (b) will help the administrator to plan for an appropriate communication and visual materials programme and to find support for such a programme; and (c) will assist literacy organizers and other users in becoming discriminating critics of graphic materials produced or obtained from exterior distribution channels. While this monograph has been produced as part of the programme of the International Institute for Adult Literacy Methods and while we do address this monograph especially to the literacy worker, this is not 'off limits' to other

development workers. On the contrary, this material will be of clear and direct use to those working in community development, agricultural extension, health education and family planning. We hope that most development workers will find in this monograph important ideas that they can put to use in the design of graphic materials to fulfil their special communication needs.

We like to think that this monograph will have appeal *outside* the literacy and development subculture. It is common knowledge that most of those who come out of colleges in the developing world with their diplomas, do so without any understanding of their visual environment and of their own heritage in culture and communication. This monograph can educate those college graduates and give them a new awareness about their visual environment. It can articulate for them what is as yet diffused. It can put them in touch with their heritage. By helping them understand the relativity of the communication idiom in each different culture, it can help them to respect their own cultural values, so that they are not overwhelmed by the Western mode. And where they do use Western communication modes based on the mass technology, they can do so with a stance that includes both strength and sensitivity.

The monograph includes between its covers a rich collection of visual materials. For those engaged in functional literacy and development communication, here is a mini-gallery of graphics packed in a book. Books and monographs on visual literacy have too often been written by non-artists —researchers who propose elegant definitions, and present experimental results with abstract theories of iconic symbols. Here is a designer co-authoring a monograph on visual literacy, and he illustrates the points made in the monograph by including examples of various types, styles and idioms. They communicate without words. They are valuable suggestions of what designers of visual materials could do with resources from their own environments to communicate with farmers in villages, hunters in the bush, and herders on the plains.

My experience, unfortunately, has been that artists working on development projects in the Third World do not read much. They may leaf through the *Poster annual*, but they will not read a short article in the Sunday newspaper about new directions in art or about new interpretations of contemporary reality by a society's creative artists. I do hope and pray that artists working on functional literacy and other developmental projects in the developing world will read the text of this monograph and attempt to work through the practical exercises proposed by the authors.

In the final section of the monograph, the Zimmers have included informal notes on some of the more useful books in the area that some readers

might want to consult. Readers may also find in these pages discussion of some issues that have been more fully discussed in other monographs in this series. Sohan Singh's *Learning to read and reading to learn: an approach to a system of literacy instruction* would be excellent complementary reading. Sohan Singh writes, of course, of the other literacy—that is, verbal literacy. S. Thiagarajan's *Programmed instruction for literacy workers* presents in much greater detail the concept of planning by objectives. H. S. Bhola's *Evaluating functional literacy* includes ideas that would be useful for producing valid data for use in the planning and designing stages, and in testing the impact of visual communications on individuals and communities.

H. S. Bhola

Contents

Introduction

This monograph is about reading, but not about reading words. Experts say that people get 80 per cent of their information from what they see. To do that, we all 'read' many things. Words are important, but we leave the many aspects of verbal literacy to the other monographs in this series.

The purpose of most development materials is to communicate information, so we focus here on the communication process itself, and on visual communication in particular. Along with literacy workers, we hope to reach anyone interested in social and economic development who wants to communicate new information in ways that people can understand, and in forms that dispose them to use it. We want especially to reach the peoples of the developing world, and we would like to help them use their own rich visual heritage in the heroic struggle for modernization.

To that end, we have written a 'why to' as well as a 'how to' manual on visual communication. When we come to practical processes and problems, we do not forget print. This is still the cheapest and most widely available of the modern visual media, and too often it is chosen for only those reasons. Print, however, has both strengths and weaknesses in communication, which must be considered in its design. We also suggest some ways to adapt in whole or part, traditional media and visual language to modern messages. These traditional media are often readily available but, for reasons we shall explain, people tend to overlook them.

Parts of what we have to say will be more relevant to some people than to others. Chapter I provides the kind of understanding that can help graphics and other visual forms contribute much more to communication for development than they do now. We feel it has something to say to people working in any visual medium, and we recommend it particularly to policy-makers and administrators. Without their support, putting the ideas into action in the next two parts would be difficult indeed.

We hope project planners and directors will continue to read through portions of these next two chapters. The second chapter outlines the kind of information visual artists and designers need. Project planners can help visual artists by giving them the possibility to collect this information,

either alone or with other members of the project team.

Chapter III sets forth a systematic design process, from organizing research through to readying projects for reproduction. It has two emphases which the reader may find helpful, even if he decides that another way of proceeding suits his purposes better. First, it organizes the whole process according to a communication model. Thus the main objective remains prominent at all times. Second, it emphasizes the role of the visual, which is often dealt with insufficiently in most discussions of the design process.

As for visual artists and designers, we hope they will bear with us all the way—even though we have been told that they would rather read visuals than words! Chapters II and III include sections of specific information chosen to help a visual artist analyse visual language and to use it effectively in his projects. We have tried to insert these sections where he will find them most useful. We have also tried to make the rest of the monograph sufficiently complete to guide him through small projects on his own, and to make him a useful decision-making member of larger projects.

The procedures outlined here were developed by Fred Zimmer at The Ohio State University, where he is professor of Visual Communication. His students have used it successfully in many settings, including community-based public communication projects. On the basis of reading, research and wide-ranging first-hand observation, his methods have now been adapted for use in other parts of the world. We are very much aware, however, that situations differ greatly in different places—in fact, that is one of our main points. So, to make this monograph truly useful will require a great deal of active co-operation from the readers themselves.

Writing and illustrating this book has been hard work. Implementing it will be too. We hope the users will find that doing so is worth the effort.

CHAPTER I

Understanding visual literacy

It is easy to see why literacy plays an important part in economic and social development. A literate housewife can read about how to raise a healthy family, and how and why she may want to limit the number of her children. A literate farmer can read about good seeds and crops. A literate factory worker can follow directions and do his job better. In short, reading and writing are important ways to give and obtain new information.

Many kinds of information can be communicated visually without words. When pictures of keywords, charts, graphs and other illustrations are used to teach people to read, visual literacy is helping to teach verbal literacy. Yet over and over we hear that the visual part of this teaching, and other ways of using visuals for development, are not getting through very well.

The problem

Have you heard by chance about the film meant to show how mosquitos carry disease? It was full of close-ups of the insects, and people watching it decided, 'We do not have to worry. Our mosquitos are so much smaller!' Or about the literacy teacher and the beautiful set of posters. She put them up, and the whole class liked looking at them. No one realized, not even the teacher, that the designs spelled out words, and the posters were meant for teaching reading. And then there was the agricultural agent. He drew a picture in perspective, showing how to space transplanted coffee trees. When he returned, he found that the farmers had followed the picture exactly. The first row was short, with the plants close together. The next rows were successively longer, and the plants . . . further apart!

Can a better understanding of how we get information from what we see—visual literacy—lead to planning and designing more effective visual materials? We think so. Certainly all the stories about misunderstood visual aids suggest it is worth trying.

The agricultural agent in the story just told was doing exactly what many other people working in mass communication for development do. Typically, they use such media as print, television and film. They design in what they think is an international style and adapt some of the details to fit the local situation. They then assume that the people they want to reach will understand.

Often they assume too much. The people may understand something quite different—like the audience in the film on mosquitos. First of all, they may need to learn new visual conventions, such as perspective. Or, like the teacher with her literacy class, they may not be able to decipher the graphics which are meant to help them to read!

The result? All too often the need to communicate is great, the resources are precious and the intentions are good. But the effort is wasted. The right people do not get the right message.

COMMUNICATION IS VITAL FOR DEVELOPMENT

Communication can be a vital link between a country's policy and its progress. Mass communication can get information to many people quickly. Thus, it can help them to get much of the knowledge they need to make better lives for themselves in the twentieth century. But while many people are now aware that modernization is a complex process, fewer realize that communication too is a complex process.

Essentially, to communicate is to share an idea—at other times a feeling. It is not merely to say something or to do something. Ideally, communication for development gets the right information to the right people in the right form—so that the right things happen. Needless to say, this ideal is not always achieved. Neither can we promise that it will be if you follow our suggestions. We think they will help, though.

VISUAL DESIGN FOR WHOM?

Let us suppose, for a moment, that the agricultural agent of our story had learned how his farmers usually represented a field (assuming they had a way). If he made his drawings accordingly, then he would have communicated; the farmers would have learned; the people and the country would have profited. An appropriate illustration would have given our story a happy ending!

The idea occurred to us about ten years ago that most development graphics are designed from the wrong point of view. We were in India then, studying how pictures carry both modern and traditional information. The literacy and

other development materials we saw seemed to be intended for the kind of people who were producing them, rather than for those in the villages who needed them.

Since then, we have found similar situations in many different countries. Throughout their lives people receive a great deal of information from various kinds of painting, sculpture and other cultural forms used to make ideas visible. And the printed literacy materials and other development graphics we saw had little or no relation to them. Here is what we said about India ten years ago:

> Materials directed toward the adult illiterate ... appear to be descended from the world of missionary pamphlets written thousands of miles away and directed toward nineteenth-century English audiences with a taste for sentimentalized realism ....
>
> And these communication attempts are achieved at great price and against great odds. The ancient presses, broken type, poor silk screens, adulterated inks, power failures, film and chemical shortages, strikes, lack of skilled personnel and replacement parts, to say nothing of the monsoons and dust storms, are the despair of the country's educators, writers, artists and designers .... Surely somehow, with such a marvellous tradition of communication operating within the subcontinent, Western ideas might be promulgated in ways that are neither so alien nor so difficult to accomplish ....
>
> The reason for this situation is neither shortsightedness nor ineptitude. Given the meagreness of their resources, the Indians are doing an outstanding job. What needs to be examined is the pervasive, often probably subconscious, nature of that job.

We cannot see that there has been much fundamental change in visual design, either in India or in other parts of the developing world. The technological difficulties may be less, but they are still there. The drawings may not all look like sentimental missionary pamphlets, but neither do they resemble that people's other visual materials. And over and over again we hear and we read that this or that people do not understand pictures because they have no experience with pictures—for they have none.

What kinds of pictures? Art exhibitions, books and our own experience tell us that these same people (who supposedly have not seen pictures) have houses decorated with beautiful—and meaningful—designs. Or they express similar ideas through objects, costumes, toys or dances, in daily life or at festivals. In every place where we have been (and we have not been everywhere) people already have ways to express ideas visually. Unfortunately, these are not the ways of the artists and development workers trying to reach them.

WHERE DO YOUR IDEAS COME FROM?

Many people working in development have dedicated their lives to their country and their countrymen. They are intelligent. They are a selective group. Why, then, are they so blind to their own visual heritage? As we shall see, much of the answer lies in history. And that history has produced a special relationship between them and their culture.

If you are dedicated to modernizing, stop and think about where many of your ideas came from. We guess they have been much influenced by Europe, the United States of America or both, either directly or indirectly. Perhaps you have settled in what we will call the Euro-American culture—the source, almost the definition, of so many modern ideas. If not, your school may have been influenced by such models. Thus, you understand easily the line-drawings, photographs, charts, graphs and maps in most literacy and development materials because you learned them thoroughly many years ago in school. Why should you doubt that they are universal? The people who taught you—even those who taught communication—did not consider them alien.

Nevertheless, all these visual conventions have their own history. Perspective, for instance, flowered in Renaissance Europe. Drawings or photographs using perspective show how things look from one point of view. However, perspective is hardly a central concern of other art styles. Why should the people of rural Africa, Asia or South America, or in any of the industrializing cities of the developing world, understand perspective—to them an alien mode of expression—unless they learn it, just as you did?

Most communication theory as we know it today was developed in the industrialized West. Even when used with the best of intentions, it tends to overlook the strengths of other cultural idioms. For example, an engaging book on communication in Africa has been written by a Scandinavian author who knows both his subject and the continent well. It is admirable in many ways. However, it takes little notice of the kinds of communication—visual and otherwise—that have been important in spreading and maintaining traditional African cultures. Later, we will look at some of the reasons why such omissions occur. Let us just say here that traditional forms are at least worth looking into. Perhaps some of them could be enlisted in the cause of development. In the case of visual communication, we hope to show you how, when and if it is appropriate.

THE RIGHT VISUALS FOR THE RIGHT PEOPLE

There are people who are trying their best to prepare visual messages their

countrymen can understand. Some film-makers, for instance, are saying: 'If we zoom,[1] into buildings, our people will think the buildings are falling on them. If we pan,[2] across a landscape, they think the mountains are moving. We must find ways to make films that they will understand.' Others are trying to identify these ways in the graphic arts. One recent study found out that, out of thirteen posters designed to assist in the teaching of literacy, all but one were misunderstood. The decision, sensibly, was to redesign the posters, not the people.

That was no simple job. It is useless to ask a traditional artist to draw, for instance, a hypodermic needle that his people will recognize. Ways of visualizing which will be understood by people who have not been exposed to the idea of immunization must involve a creative approach. This means learning to analyse the visual language used by the traditional artist and his clients, and adapting it to make new messages.

His style may not be the best choice. Many people have now been exposed to the modern media and to the visual language that goes with it. Those with several years of schooling can often understand pictures found in development materials. This is not surprising since both use the same style of illustration. But it does not mean that you can safely use this type of illustration with all audiences. Studies show that even people who have been thoroughly exposed to the modern media can make startling misunderstandings with examples of the so-called international visual style. Sometimes you may even decide to use visual conventions that you know your audience does not understand, for they may indeed be the best, or even the only ones available to visualize what you want to convey.

These are only a few of the factors to consider in choosing a communication form and a graphic style. It is for this reason that we advise the kinds of research and systematic decision-making and development you will find described in Chapters II and III.

What you already know

When we say that many people have been blind to the visual language of their own culture, it would perhaps be fairer to say that they do not grasp its full possibilities. You already know a great deal about your own visual language. You learned it naturally through the process of growing up. It remains to become aware of what you know, to extend that awareness systematically, and to put it to work.

In the following section, we will point out some of the influences on the development of visual language. We will describe some of the ways it communicates in different parts of the world. This will involve examining many

1. To 'zoom' is to adjust the lens of a movie-camera so that an object in view will become very close or very distant.
2. To 'pan' is to move a movie-camera across an entire scene or landscape or to follow a particular character.

more visual forms than just drawings and photographs. People communicate visually with their bodies, clothing, jewelry, household utensils, sacred objects, painting and sculpture, even their houses and town plans. All of these provide raw material you can draw on to make your own visual communications effective.

A way to find out more

In the rest of this monograph you will find some questions and exercises included in the text in bold type. These are meant to help you relate different idioms to your own cultural situation and to the lives of the people you will want to communicate with. Through doing these exercises you will be able to describe the kinds of communication, particularly visual language and literacy, in your area. If you do not make visuals yourself, you may not want to carry out each exercise right through to the end. But if you do, you will be putting together your own design manual based on your own culture's visual language.

However much you do, you will be a pioneer. The culture-oriented visual grammar books, dictionaries and design manuals have not yet been written. Perhaps you will write one.

WHAT IS VISUAL LITERACY?

How do we get information from what we see? Very likely no one has the complete answer. Yet this is the key question for anyone concerned with designing visual materials. The more we know about this process, the better able we are to design in ways that will be understood.

If you are not blind, or a baby (and then you would hardly be reading this monograph!) you get a great deal of information from many kinds of things you see. So, presumably, do the people you want to reach.

People do not get the same information from the things they see, even though they may be looking at the same things. For the meaning of any language, visual or verbal, is not in words, letters, lines, colours or spaces. Rather it is in us. We have learned to attach meaning to these symbols. When we all understand a word or a picture in somewhat the same way, we have learned enough of the same meaning for it to allow us to communicate. Two people probably never understand the same word or picture in exactly the same way. This is so because the way we interpret it is based on our associations with it, and these always vary. If we bring vastl different associations to the same word or picture, we may misunderstand each other. And when the differences are too great, we cannot communicate at all.

Obviously, if you speak to me in Pushtoo and I know only French, I will not understand. The two linguistic codes are completely different. If you speak the French of Paris and I know only the kind spoken in Haiti or Quebec, we may still misunderstand each other. The two linguistic codes are somewhat different. It is not so easy to see, though, that the same principles apply to visual languages. Visual codes can also differ.

Perhaps you know people in some remote part of your country who have watched a film or television programme made to entertain people in the United States or some other distant country. Do you know how they interpret this imported message? The chances are, it does not have the same effect on them as it probably had on its primary audience. That is one reason why American films have been blamed and credited with all sorts of effects on peoples all over the world.

If you can speak two or more languages, you also know that people do not understand those languages automatically. Probably when you do not get through with one language, you try another. Some people cannot quite comprehend this idea, for they have not been exposed much to other cultures and languages. Often when others do not understand them, they begin to talk louder and louder, or more and more slowly, or both. Many people working with visual communications in the developing countries are doing much the same thing.

These designers of visual materials need visual literacy, which is the ability to understand at a conscious level the visual language used within a particular culture or cultures. They are able to design messages using their visual literacy skills. The point must be made that people can and should learn to understand visual language better. This applies especially to artists, designers and heads of visual communication projects, who need to become more conscious of all kinds of visual language and more sophisticated in its use. Visual communication is capable of carrying much more information than it actually does nowadays, and more than most people realize. But the burden of communication is on the communicator, not on the audience.

Seeing and knowing

The way we receive information through sight is complex. Science still cannot explain completely how we do it. Yet we do so constantly, and usually with very little effort. We identify a friend in a crowd, for instance. We wave and smile. He waves back. We have used a complicated set of interacting cues naturally, with little thought. Have you done something like this recently? Try to remember the visual cues that separated someone you knew from the others in the crowd.

We can pick out a friend in a crowd. Otherwise it is just a crowd.

A lot of visual communication happens very easily. Think, for example, of what you can learn about a stranger in one glance. Sex, and approximate age, are almost always apparent. Sometimes region, occupation, religion and even socio-economic status are apparent too. Look at someone you do not know. Make a mental list of everything you can tell about him or her by looking. Identify the visual cues that gave you each piece of information.

Non-verbal visual communication often plays a big part in the verbal messages we receive as well. We read the words on a poster, for instance, and get yet another message from its design. The visual message can add to the verbal message. It can say the same thing and thus make the message stronger. It can explain what the words say and so help people to read them. But it can contradict what the words say, if we are not careful designers. See if you can find examples of each of these ways in which words and pictures can be related.

We understand visual messages by organizing their parts, or elements, into a whole. We can do this in a large number of ways. The parts may cover distances in space from vast to tiny. They may have three dimensions or only two. Materials, colours and textures can vary. So can forms and the way they are combined. We glance at a newspaper. We watch a film. We look for a bus stop, or a stray animal, or the emergency room at the hospital. Each time we are organizing many visual elements into a message that has meaning for us.

We do all this easily because we have been doing it since we were babies. Our past successes and failures, our pleasant and painful experiences, all influence the meaning of what we see. They affect the intellectual content of the message and our feelings about it. They affect how much we believe the message and its effect on us. They decide, finally, whether we accept or reject the message.

Try to think of a visual symbol that means the same thing intellectually, but not emotionally, to you and to someone else. If it were an important part of some communication, would that communication have the same effect on you? Do you think the emotional effect of graphics is important in how they communicate?

Society, environment and communication

In different places, people learn different kinds of things from visual language. Many can tell the main characters in a religious drama by their make-up, props and costumes. Some can 'read' the meaning of holiday food displayed on dishes. The ingredients, preparation, arrangement and location of the dish may all contribute to this meaning. Some people can look at a painting on the wall of a building and know that a certain god is worshipped inside, or a marriageable daughter lives there, or ice is for sale. If we do not know the reason for these visual symbols, we do not get the same meaning from them.

The ways people communicate grow out of their surroundings. Nature, or the physical environment; culture, or the forms we invent to deal with our environment (including each other); and society, or the way people are organized in relation to each other, all have their parts in determining how people will communicate.

Both nature and what man does with it probably influence how we perceive at a very basic level. This in turn affects the visual communication forms we develop. People contained on a high plateau or island, or in a valley, receive and pass on information in ways that differ from people scattered over a flat plain.

What are visual messages made of?

Messages can be made from almost anything. Where wood is plentiful, it will probably be carved into forms that communicate. Where rains are heavy, messages meant to last will probably not be made out of earth. People can go to tremendous trouble and expense to get the materials they want for messages. Many of us have seen gold, silver and precious stones used this way. In pre-Spanish South America, the important men prized coloured feathers and would not let others wear them. In Egypt, the Pharoahs spent years and thousands of their subjects' lives to have huge stones dragged across the deserts to build pyramids whose purpose was to announce that these rulers were immortal.

List some material that is commonly used to make messages in your area. List some rare or costly material that the rich and powerful in your society have prized for making messages.

Materials have a lot to do with determining the forms of messages, and these forms are more various than we usually think. The Indians of the Andes kept accounts with knotted string. Modern technology can send messages with laser beams, and bounce them off satellites. And then, of course, there are the forms we think of more often, such as painting, sculpture, plays, film and television. Can you think of some unusual message form in your own culture?

The influence of occupation in communication

What people do for a living affects the communications they develop. Farming, herding, fishing, trading, manufacturing and many other occupations have their effect. Isolated herdsmen in the Alps, for example, developed a high-pitched yodel which carries far, for they could not see each other behind the mountains and trees. Fishermen rarely use noise because it might frighten the fish. Instead, in many parts of the world, they signal from their boats with flags and lights.

Write down a communication form, visual or not, that you think is related to an occupation. What is the connection?

Social relationships and communication

The relationships among groups influence the kinds of communication forms they develop. If two groups exchange only a few goods, they do not need an elaborate system of shared symbols. However, if they are linked by complex ties, such as religion and kinship, the communication forms they use are likely to be more complicated.

The educated urban élites, for example, can communicate, even among total strangers, through newspapers, letters, traffic signs, etc. Many of these forms require literacy. The problem is that the urban élites sometimes tend to take literacy for granted when communicating with the rural subcultures. If they want to convey some information to farmers, for instance, they may put it into printed words. But if the farmers cannot read, much well-intentioned effort will go to waste.

Go to some nearby town or village and find a non-verbal visual sign. Can you understand it? Find out what it means to someone who lives there. Could you use that sign to communicate development information to that

person? In Chapter II, we suggest ways to analyse such signs and symbols in order to use them to get messages across.

Some other ways of communicating

Our discussion of communication barriers and breakdowns should not be taken to mean that no communication is taking place among groups and subcultures. Some exchange of ideas and methods is going on all the time. Town and village, tribe and tribe, country and country—even different and distant cultures—have been communicating with each other throughout history. The process has been slow and tortuous, but nonetheless important. Many anthropologists consider this diffusion basic to the whole idea of culture. Information tends to flow to and through societies in ways that maintain them. Yet it seems very likely that no two cultures have exactly the same communication forms and patterns. There are too many reasons why they can differ.

Some other reasons for cultural differences

Forms of government, language, religion and family relationship all influence how we communicate. So do population patterns, particularly location, proximity and density. The dominant psychological characteristics of a people also have an effect. And so do the degree of industrialization, economic growth and stagnation, and the attitudes of the country's leaders and policy-makers towards the people.

And, finally, so does history. Countries may be situated in similar climatic zones and may have similar social institutions, yet colonization and other forms of contact with other nations can lead to the adoption of different forms of visual symbols and different means of communicating them.

What visual communication forms can you think of that came into your society from another culture? Is some group in your society more likely to understand them than another?

MEDIATED AND UNMEDIATED COMMUNICATION

People working in film, print, television, etc., usually divide communications into two broad groups, 'mediated' and 'unmediated'. Unmediated communication happens more casually, sometimes unconsciously, and it is usually more short-lived. Communicators study it mostly as raw material for their own efforts, which they call mediated. Mediated communication is made consciously, via some medium.

This is a convenient distinction, for it calls attention to many ways of making messages which you might otherwise overlook. Even so, if they are not used correctly, your messages can be misunderstood.

But do not assume that mediated communication is restricted to the modern media. Purposefully made messages take many forms. They can range from flannelboards to fireworks, as well as the many others we have already mentioned. A lot of these forms will also provide raw materials you can draw on to make your own messages more easily understood.

Kinds of visual communication

Body language. Our own bodies are the most immediate visual media. We use facial expressions and movements constantly to qualify what we say, or to add more meaning. Sometimes we even contradict with our bodies what we say with our mouths! We can carry on silent conversations too, with sneers, beckons and come-hither (or go-away) looks. We turn toward people in invitation and away in rejection.

We send and receive this body language very accurately, even when we do not realize it. We think, for instance, 'My husband is angry', 'My mother-in-law is in a good mood', 'My child is sleepy', and often we are not conscious of how we know. The person who gave us this information is not conscious of doing so either.

When you are with someone else, watch how he or she uses his or her body unconsciously. Later on, try to write down what that person 'said' with body language. Can you identify each gesture or position that gave you each piece of information?

We also use our bodies consciously. We make signs that convey information when we point to something, or direct traffic, or pray. We make other kinds of messages when we 'make faces' to amuse a baby, or frown to tell someone we disapprove of something. All these ways to use our bodies seem very natural, as we have said—we are not even aware of many of them. Yet they are learned, and the ways we stand, walk, carry loads, sit and so forth can be interpreted differently in different places.

Clothes communicate, too: Peruvian Indians

Dress and objects. We also communicate about ourselves through dress and other adornments. In some places, clothing, tattoos, jewelry and other marks often serve to identify people. Hats, for instance, can show a person's sex, region, perhaps even social or marital status.

Religious symbols: forehead painting, India

Neck ornament, Afghanistan

Regional Styles: hair style, Masai, East Africa

Clothing, Bolivian Altiplano

Clothing, Turkish women

Write down or draw the ways that one piece of clothing or adornment can vary among the people you know. Now can you write down what each variation means?

Such everyday objects as knives, pillows, lamps, beds, glasses and spoons can be much more than just practical and pleasing. The cost of an object can give us an idea of the owner's wealth. Owning it can be a signal that he belongs to one group rather than another. Other things that we possess say something about our taste, or our personality.

And many useful objects are meaningful symbols as well. Among the Dan tribe in Africa, for instance, the great virtue of generosity is expressed by giving food. Generous women receive rice spoons that express this virtue. The spoons' swelling bowls represent a pregnant belly and thus the ultimate generosity—giving birth. The handle is carved into legs performing the ritual dance of giving food.

Silver symbols used for worship, Mexico

Ceremonial flower garlands, Thailand

Spoon symbolizing generosity, Ghana

Door knocker showing ownership, Crete

Stool showing status, Cameroon

Can you think of some everyday object in your culture that is also a meaningful symbol? Are such objects common where you live?

Food can be organized to communicate: sushi in Japan

. . . and vehicles can carry messages: a truck, Afghanistan

Buildings. If a simple object like a spoon can carry so much information, think what you can learn from more complicated structures, like houses and religious buildings. Their plans, the way they are constructed, the materials they are made from, the ways they are decorated, the objects they contain, and even their place within their surroundings can be part of their visual message.

What does your house tell people about you and your family? How does it do this? Try to be specific.

Decorated house, Nigeria

Modern house, India

Detail of Buddhist temple, Thailand

Detail of Buddhist temple, Taiwan

MANY KINDS OF MEDIATION

Almost all the ways to communicate we talked about above can be used consciously. A warrior puts on war-paint or battle-dress to tell people of his intentions. A woman may wear special clothing to show that she is married. A potter can make a toy to communicate some part of the meaning of a festival. Many different kinds of religious structures are planned to communicate quite consciously about various aspects of the faith they express. Even the unconscious codes of body posture and movement are studied by actors and theatrical directors, who then use them deliberately to communicate ideas and feelings.

Do the actors (and perhaps dancers) you have seen express general emotions and attitudes with body language? Do they have a more specific and conscious code?

A red flag means a red meat store, Mexico

A bread sign uses real bread, Iran

Direct hand prints on a granary make auspicious messages, Ivory Coast

Miniature man bears symbols of the good life: a wedding gift, Peru

Including meaning

What makes non-verbal visual messages mean what they do? The more you know about this, the better able you will be to use the same methods to give your own messages meanings that people understand correctly.

Materials. Perhaps the most basic element to think about is the materials things are made from. These often convey very little information to some people. Beyond cost and appropriateness to the object's function, they may have only some general connotations. Wool is warm and cosy; a colour is loud or soft, tasteful or violent; and so on. To many Japanese and Scandinavians though, materials have inherent, almost mystical, essences, which craftsmen strive to bring out in the objects they make. In other parts of the world, almost the opposite is true. The materials themselves have conscious and specific meaning, and they give meaning to the things from which they are made. In India, this system of meaning is conscious and even hierarchical. That is, some materials have more prestige than others.

Pick an object from your immediate cultural environment and decide what (if anything) the materials it is made from have contributed to its meaning. Now try to decide how this has been done, either in one of the ways we have discussed or some other way.

Materials are only the beginning of the elements to think about in deciding how visual communications carry meaning. Colours, lines, shapes, drawing

styles can all contribute to the meaning of a visual message. Sometimes an object must have the right maker, or be made according to the right process, before it has the right meaning.

Space. Space is almost always an important part of any visual message, no matter how it is constructed. Often we can tell easily by the space between them whether two people are friends, lovers or only business acquaintances. And like body language, the meaning of personal space has to be learned. What means anger in one country may not somewhere else. What seems like the right distance for a friendly conversation in Latin America feels like 'pushiness' to North Europeans, who need more space around them to feel comfortable.

Can you think of a foreign friend who has made you uncomfortable by coming too close, or backing too far away? Do you think that different interpretation of personal space can lead to misunderstandings?

People isolated in their own personal space

Friendly sharing of personal space

Space communicates on a larger scale, too, even to the way we arrange our environment, both consciously and unconsciously. Nobody planned the ugly outskirts of many United States cities, but at least to the sophisticated eye, they say that individual initiative and competition are more valued in America than co-operation and aesthetic harmony. By contrast, many African and Indian villages have very deliberate plans. They are based on social structure, and one can learn a lot about a person just from where his house is placed.

How does the plan of your village, town or city communicate about your society? Write down some of the things it 'says'.

Town plan of Kyoto, Japan

Village plan, Cameroon

Art as communication. Literacy workers often report that this or that group does not understand pictures because it does not have any visual idiom. Consequently, they may add, these people do not understand that drawings and photographs are representations of reality. As you can probably guess by now, we suspect that, even so, these people do have some kind of visual art, and we suggest ways and places to look for it in Chapter II. However, that art form may not be very much concerned with representing reality. For the world's art forms make an astonishingly varied and often subtle use of lines, shapes, colours, masses and spaces, but their purpose is not always to show how things look. It is for us as designers to take that visual art and use it to communicate information about old and new realities.

Realism and meaning. First we should make it clear that no art form reproduces the real visual world completely. Even the most realistic picture uses unreal conventions. Colour films and photographs, for example, shrink or enlarge the real world drastically. They also show three dimensions in two. Snapshots stop abruptly at the border.

On the other hand, many realistic works of art are 'about' much more than what something looks like. A Crucifixion from the European Renaissance, for example, is much more than a painting of a man nailed to two pieces of wood. It is a serious and profound statement about religious faith. Similarly, an African sculpture of a man standing straight and tall is

also about much more than a man. It expresses the important concepts of dignity, strength and power.

Do you know a realistic art style that communicates more than what its subject looks like? If so, choose one example. Write everything it communicates to you. Now try to write down how it communicates this information.

Representational art can make extremely complex, abstract statements. Hindu classical sculpture is a good example. In it, materials, clothing, props, animals, and the proportions and positions of the human body all have specific meaning. One of its codes is called *Mudra*. This gives meaning to different postures, gestures and facial expressions, down to the positions of the eyes. The result is beautiful. It also conveys a great deal of information to the people who understand the code.

Although their forms may be distantly derived from the real visual world, many art styles are not much concerned with realism. The most serious visual statements of the Muslims, for instance, are usually very abstract, since their religion forbids showing the human body. Other cultures have other rules that must be followed if they are to communicate correctly. Often there are more rules for making sacred statements than secular, and for showing human beings than plants and animals. By following these rules, art can communicate about a huge array of subjects. The irregular patterns of some African textiles, for instance, even translate sight into sound by reproducing the rhythms of singing and drumming.

Do you know an art style that is not very realistic? If so, choose one example and write down everything it communicates to you.

Fabric pattern, based on rhythmic drum beats, Upper Volta

Traditional kite, Japan

Tapa cloth, South Pacific

Prayer rug, Turkey

It is probably safe to say that almost any important concept in a culture will be communicated visually somehow. For example, R. F. Thompson says that in Africa, coolness—the virtue of being in control—is expressed in countless ways through dance, costume and sculpture. Calling it a partial list he cites other abstract qualities that are often communicated visually: fear, darkness, stillness, repose, action, energy, vitality, power, strength, manhood, femininity, fecundity, voluptuousness, sexuality, goodness, stability, reconciliation, determination, service, submission, humour, serenity, youthfulness, newness, richness, wisdom, status, honour, respect.

THE MEDIA MIX

We have talked so far only about visual communication. In reality, visual communication does not often happen by itself. Sight, sound, smell and touch occur in various combinations, and people working in visual communication should be aware of the part played by the visual element in the whole mix.

A festival, for example, can be looked upon as a complicated communication event with many visual elements. Houses, other buildings and open ground, animals—sometimes even objects such as sewing machines on display at the festival—can have decorations that carry meaning. These can be made with paper, flowers, coloured sand, paint and even mud. Other visual messages can be carried by special toys, sweets and other foods that

have been prepared and arranged in ways that communicate. Fireworks, lamps and other kinds of light may convey even more messages, and so can the special clothes people wear, and the dances and dramas that may be performed. If the occasion is religious, the main audience for much of this communication may be some god. Needless to say, the people who attend may both get and give messages. They make messages with their conscious and unconscious body codes. They press together in crowds. They signal to each other. They respond to performances and sometimes take part.

And, of course, many other kinds of communication are going on as well. If the celebration is based on a story, it may be recited, chanted or sung, with or without written accompaniment. There may be music. People may make all sorts of vocal cries, comments and responses. The feel of objects, the smell of incense, of cooking, flowers, perfumes, even bodies—all contribute to the communication event. It makes a heady mix.

Similarly, many communication codes come together in puppet shows, weddings, funerals and other rituals, secular celebrations and parades. Even a simple family meal can be analysed as a communication event. In fact, such a meal makes a suitable place to begin studying the complex of media and meaning for different occasions.

Think of some festival or a parade you have been to recently. List as many visual messages you experienced as you can remember.

Dance mask, Ivory Coast

Javanese shadow puppet

Festival effigy figure, India

Bamboo fireworks tower, Mexico

Are we communicating?

We can say, then, that how people communicate is determined by their environment, their culture and the societies in which they live. We realize that we all use many kinds of communication, visual and otherwise, conscious and unconscious. These messages are made in many styles and media. Sometimes they are understood widely, and sometimes only within a small group, and they can come together to make fascinating mixtures.

Now the question is, are we communicating well enough to meet our needs for economic development, social development and cultural renewal? The answer: not well enough in the developing world.

The people working in communication there do not have a broad, culture-oriented point of view. They do not see their own traditional visual languages as communication. So they cannot draw upon them to make new messages. Instead, both in theory and in practice, ideas about communication come from the industrialized West. Their conventions and concepts are familiar enough to the élite using them. Too often, though, the workers and farmers for whom they are intended must learn an alien visual language, in a foreign medium, in order to 'get the message'. 'Where communication, as defined and developed in a very different part of the world, does not exist, communication does not exist. It must be introduced.' This is a naïve—even tragic—thing to say!

COLONIALISM RUNS DEEP

The enormous prestige of Northern Europe and the United States in the developing world is rooted in colonialism, and fed by the economic power

of industrialism. Even in countries that were always politically independent, the educated élite often learned, largely unconsciously, that 'West is best'. Now the high-tide of colonialism is receding. We can look more objectively at what has been left behind, and adopt and discard more carefully.

You will probably find some of these imported ideas very valuable. According to Gunnar Myrdal, the notions that progress is good and that mankind can improve his life are among the development ideals that were formulated in the United Kingdom and exported at the height of her empire. Without them, very few people might be working for development today.

Western communication theory, practice and technology can also be helpful. However, it is time to look carefully at some of the reasons why communication for development so often proceeds, not from the strengths, but from the weaknesses of developing countries.

COMMUNICATION THEORY: THREE BIASES

In modern communication theory, mass communication happens only through radio, television, film, print, etc. Visual communication has been further slighted by a general overemphasis on words. Many social scientists treat words as inseparable from the things they stand for (a mistake that has much in common with the people who treat pictures as things). Communication theorists only began to see pictures as someting to be 'read' with the advent of film and television; they still do not usually apply this point of view to the older, graphic media. And, ironically, the study of communication has concentrated too much on its relation to change. As we shall see, this emphasis may not have served the cause of change too well.

Mass communication as technology

In the United States, mass communication happens only in the mass media. George Gerbner, Dean of the Annenberg School of Communication, calls it 'qualitatively different from public communication, i.e., communication available to the public before modern technology.' Where it is prevalent, there is no question that modern communication technology has profoundly affected the ways that ideas reach many people. (The people and their societies have also been affected often in ways it is not so easy to see.) The trouble is, the many other ways that ideas can be spread among people are hardly noticed as communication, or even studied. Universities teach journalism, film-making, broadcasting and so forth. They seem to have no place or reason to explore painting, dance, sculpture, festivals, etc., as communication.

I (Anne Zimmer) found that out the hard way when we came back from India. I started graduate school in communication, to study how traditional Indian wisdom and ways of doing things had spread so far and lasted so long. The professors and other students had trouble figuring out what I was talking about since, to them, mass communication was, to quote one widely accepted definition, 'available to the public, transient, and dependent upon technology.'

Transient? The ideas and visual forms I wanted to study had lasted thousands of years. What technology? Surely not chisels, paints, brushes, dyes and stone. The ingenious inventions which they considered as mass communication had not been around much longer than I had—in fact, I pre-dated television considerably!

I began to ask taunting questions. Once a journalism professor was explaining that his professional organization was helping an African nation. That country had no mass communication, he said, and they were setting up a newspaper. I suggested finding out what could be done with drums. He looked blank. Finally, he said, 'Well, journalists don't know much about drums.' He was right. (Neither do I. But I would like to know.) Meanwhile, who will benefit from that newspaper? The people who need help most are most likely to be illiterate. Where most people cannot read, is a newspaper mass communication?

As well as changing communication in the industrialized countries, the modern mass media have made other profound changes in societies. The developing world might do well to look into some of these changes as they adopt these powerful new tools. But limiting mass communication to the use of these tools leaves a lot unexplained. How, for instance, did the great religions of the world spread before television, radio or even print?

Perhaps it is more useful to say, with Everett Rogers, that mass communication 'enables a source of one or several individuals to transfer messages to an audience of many.' Starting with the 'message' makes much more sense. It encourages communicators to start not with the medium they use but with a question: 'What is the best way to reach the people I want to reach with the information I want them to have?' The answer may indeed involve the modern media. It may use line-drawings done in perspective. But that answer should not be automatic. We think it should come from a careful, systematic analysis of the whole communication problem.

Why is indigenous communication invisible?

Back in the Middle Ages, when Gutenberg printed his first Bible in Germany, he set some profound changes in motion. Printing with movable type

has been called the end of Europe's Dark Ages. It may also have been the beginning of the domination of words. Putting words together from letters is much easier than carving pictures in wood or casting them in metal. Then, with industrialization, things were made in large quantities, with much less human effort or attention. Objects carried fewer visual messages in their form. Gradually, such messages became less important and ceased, in large part, to be made or read.

Industrialization also affected thinking about graphics. The visual arts had been widely understood, and ranged fairly freely from folk art to fine art. Now they split into two distinct streams, both more removed from the main concerns of everyday life. Fine art became more and more private. Commercial art, which grew up to serve industrialism, does communicate more widely. However, its purpose—to sell and persuade—is narrow.

Even in the industrialized countries, commercial art does not serve broad social needs very well. In countries still lightly touched by consumerism, it is less relevant. Yet commercial art is the main source of the so-called international style. Thus it is a strong influence on the visualizing styles of people working in communication in the developing world.

The relationship of commercial art to folk art is much like that of a huge furniture factory to the craftsmen it replaced. Many people used to make a few chairs, or a few 'messages', or even some chairs with messages, by hand. Now a few people make many more chairs and messages by machine. The workers, and the people who tell them what to do, are no longer as close to the people who use their products.

Meanwhile, in much of the developing world, the craftsmen still exist, and folk art is still in the mainstream of communication. Painting, sculpture and many other visual forms still speak unselfconsciously to many people. Their visual language is worth exploring; perhaps some of its principles can be used, with or without modern media, to carry development information.

But the people charged with development do not see this. They are immersed in visual language, and yet imprisoned by definitions that make folk art invisible.

Communication and change

Communication research has also concentrated on studying measurable, short-range change. This focus seems made to order for development, but it leaves out too much. Ninety per cent of communication keeps a society going, according to George Gerbner. Yet the way it does so remains largely unexplored, even in the industrialized countries.

Ideas and ways of doing things have spread widely for centuries. Folklorists, for example have found the same stories in Europe, Asia,

Africa and the United States—adapted, certainly, to the local culture. Sometimes scholars can even trace the paths these stories took.

In regions that have developed very differently from the industrialized West, many facets of communication may also be different. Much can be learned from looking into how the essence of a culture has been renewed and maintained, and its sphere of influence widened. By all means look at how new information reaches people and brings about change. By all means study the new media too. But do not leave out the older media responsible for spreading the old ideas. Some of these are mostly verbal, like singing and story-telling. Others, such as painting, sculpture, puppetry, drama and dance are visual or have important visual elements.

The new media do not necessarily carry new ideas. Sometimes traditional groups have adopted the modern media. Usually they have adapted some of their traditional visual language to them. They have often made use of existing communication channels. Studying this process could supply some ideas about ways to disseminate your own information more successfully.

Anthropologists working in development say successful change programmes start from what is already there. They recommend introducing innovations into the existing culture carefully. In this way, they say, the chances that improvements will be adopted—with the intended effect—will be increased.

Using this approach in communication for development does not mean ruling out modern technology. It can mean adapting existing visual language to that technology, when that course is appropriate. And it rules

out the assumption that, where certain media and visual idioms are lacking, there are no existing ways to spread ideas widely. Whether these ways are called mass communication or public communication matters little.

Such an approach would build on a society's achievements, instead of starting with what it lacks. This should help to increase peoples' awareness of their own strengths. It should tend to foster national pride and identity, instead of cultural dependence.

A better perspective on communication theory could also help the developed nations. They might benefit, in particular, from seeing how other cultures have used communication in the cause of social continuity. Very likely other cultures have found different ways to cope with change. In India, several traditional forms of communication seemed to allow change to happen more smoothly. Perhaps this is true of other places as well.

Actually, the whole troubled, fast-moving world needs all the help it can get in avoiding social chaos as it goes through the modernizing process. Affluence does not mean immunity from social problems, as many of us know full well. Modernization may be urgently needed, but it is often a painful process. And once achieved, it is no rose garden.

These are long thoughts for a visual artist who may be faced with finishing fifteen line-drawings by five o'clock!

Communication articulates, reinforces, even helps to create the common values that hold people together Thus it is important to the very idea of culture. Visual symbols have an important role in carrying these vital common meanings. They are a link to the past. They help give meaning to the present. They even help to make the future worth the sometimes painful effort.

Until now, our argument for adapting traditional visual languages to development communication has been largely pragmatic. People should not have to learn new habits before they can discover what you want to say to them. Now we suggest that adapting this language to new information can add to cultural continuity. Doing so may help people strengthen new ways with old values. Not doing so may even contribute to cultural suicide.

How can adapting a people's visual language to carry development information help the process of social change? We do not know. We doubt whether the question has been asked before. We hope you will find some answers.

Different people, different ways to communicate visually

Summary

We have tried to set forth here a definition of communication that is culture-oriented. We have argued that cultures exist through communication. They are maintained by it, and they are changed by it too. Both unconscious and mediated visual communication use different styles, approaches and media to communicate many different kinds of messages, and their visual languages have developed differently in different places.

Unfortunately, those engaged in development communication in the Third World do not use the communication modes and media of their own cultures. The colonial contact burdened them with an alien view of mass communication, also including modern technological media developed in a foreign context. With them have come equally foreign visual languages. As a result, their own visual media—and with them, their own visual languages—have become invisible.

If you have been talking to your own people in an alien language, or an unknown or limited idiom, it is time to come home. Only then can you use to advantage the remarkable technology which your own culture may have to offer.

CHAPTER II

Acquiring visual literacy

Typically, an artist on a literacy or other development project, when asked to prepare some visual messages, starts by making sketches. These are most often black-and-white line-drawings. Perhaps they are for a teaching primer, a workbook or flashcards. The head of the media section assigned them to the artist. The form, the style, the content and the medium may all have been chosen by the head of the section without much thought for other visual possibilities. The question of whether the people who are going to use the pictures will understand them or not may not have even been posed by anyone!

Visual communication, however, requires much more than just drawing pictures. Artists and designers can contribute much more than their technical skills to communication projects. This chapter goes into the kinds of research and analysis that help drawings, photographs and layouts communicate the right information to the right people. In this way, artists and designers can become decision-making members of a team, not just people doing piecework for a paycheck. Project managers can get the kinds of information needed to take greater advantage of the visual side of their communication efforts. Similarly, on a smaller scale, one-man communicators can benefit.

We have tried to include in this chapter enough guidance for an artist on a small project to do his own research. On larger projects, people other than artists may collect much of the data, but designers will still need to know what questions to ask and why they are important. The artist-designer should not be the only person interested. The project director or literacy administrator is also in the communication business; they, too, will find the ideas discussed here extremely useful.

Basically, we shall be exploring how the people we want to reach are already receiving visual messages. Since communication is a process, we shall use a model of that process to keep the essentials in mind. Here, the model is a guide to collecting and analysing information. In the next chapter, the model will help to organize that information and will become a basis for making decisions about how to design new messages.

Here is the model, with a brief explanation of its parts. We will discuss the various pieces later in more detail.

The communication model

The first part of the model considers the sender. Often some group or agency sponsors the message. It has an intent, a reason for doing so and also broader policies that influence the message (1). This institutional setting must be taken into account. So must the skills and intents of the person or group that actually makes the message (2).

Next comes the message itself. It is made in some medium, such as print, paint or film (3). It has a specific form (4). That is, it is a poster, book, flashcard, etc. It also uses some methods of conveying ideas (5). Later on, we will look at the graphic methods used in print: words, pictures and diagrams. Each method can have different effects, depending on its treatment (6).

Communications are also made of materials, such as clay, paper, etc. (7). They must be produced and/or reproduced somehow (8). They must also be distributed to reach their audience in order to have an effect (9).

Information about the audience is essential if the communication is to have the right effect (10). The audience comes into contact with the com-

munication somewhere (11). It may use other senses along with sight to receive it (12). And most important, the message elicits some response if it has to have some effect (13).

To students of communication, 'noise' is anything that keeps the intended message from getting through (14). Noise can happen anywhere in the communication process, for many reasons. And you do not necessarily have to hear communication noise. We will come back to this idea later.

Finally comes feedback (15)—what gets back to the maker of the messages and tells him what happened to the message that was sent. This can be very important in finding out whether a message was successful.

COLLECTING INFORMATION

You may need several different kinds of information to answer the questions posed by the communication model. Here are some ways to get it without any special training.

First, look into the possibility of expert help. It may be more easily available than you think. Many government and private agencies and universities do research in related fields of communication, such as cultural anthropology, sociology, social psychology, folk art and so forth. People trained in these areas may be able to help you to work out a reliable and uniform way to gather data. Then you can keep it going from one message design project to the next. (It would be a good idea, though, to go through the rest of this monograph carefully first. Then you will have a better idea of what you need to know, and how the experts might help you.)

Such help can be especially valuable in finding out how people react to and interpret what they see. So can the monograph on evaluation in this series. Look into it early if you can. Without some way to evaluate your project, you cannot build on your success. You may be repeating mistakes instead.

Besides evaluation, there are three main ways to collect information. You can look, you can ask, and you can read.

Looking for the information you need

Often when artists get an assignment they turn first to their 'swipe files'. These collections of graphic ideas may come from all over the world. But, no matter how elegant, the Swiss poster in your files may not mean much to a factory worker in another continent. The collection itself is essential. But it should be relevant to what the people you want to reach already see.

Where then should one look? If the visual language in your area of work is typical, or your project is local, you may need to search in only one

n, city or village. However, while different areas often have some com-
ı methods of visual communication, they may not share all methods. If
r project covers a large area, it will probably be necessary to go to
:ral places.

ınd within any one town or area, different kinds of visual communica-
. are likely to go on in different places and settings. At a public well, for
ance, you will probably find dress codes, body language, pots and other
:cts that communicate information. You may see folk paintings too. But
. will *not* see how people use body language within their own families.
n to visit a variety of places—houses, temples, classrooms, cinemas,
'es and libraries, inside and out. Equally, there may be different kinds of
ıal communication on different streets. And, as we have said, many
cial kinds of communication come together at festivals and other
:brations.

**he area you are studying, list the places you consider important to look
visual communication.**

Recording: How do you note what you see? Sometimes you can buy or borrow small visual communications such as toys, masks and pamphlets. Artists and other visual designers can make rough sketches. They can take notes about details to refine later. They can map or diagram the way houses, fields and other parts of the environment are organized. Cameras record quickly and easily, and sometimes more accurately. They also allow people who cannot draw to gather information.

Sampling: Quite a few kinds of visual communication go on in the same area at the same time. Also, once you start looking in one place you may feel you cannot possibly record everything. Then your selection will be more varied and useful if you sample your observations.

Walk down one street, for example. For half an hour, note down only wall paintings and sculpture; for another half hour, the shape and placement of houses; then switch to toys, or children playing; then go to a temple, a kitchen or a classroom; and so on.

Decide ahead of time which are the most important places to go and the most important messages to look for. (The graphic methods and treatment, discussed later in this chapter, go into more detail about this.) Then give the same amount of time and attention to each. You may change your mind as you proceed. Some things or places may be more important or less important than you thought. When you get through, try to write down what you did.

How would you sample visual communication in your project area? Do you think some kind of sampling or selection will be necessary?

It saves time if several people can observe. It can also make for a better set of examples for different people often see different kinds of things. Shared observing is especially good for festivals and other special events, when many kinds of visual communication go on at once. Give everyone a list and tell each person what to look for, when, and for how long. Try to discuss the data together afterwards. Often people can add to each others' observations.

Asking for the information you need

People with special knowledge of some area can often explain its communication processes and tell you about their audiences. You may want to make a list of questions before talking with them. Do not feel tied to the list though. Interviews can lead off in valuable and unexpected directions.

Who should you talk to? The people who communicate can tell you about how messages should be made and why, and who they are meant for.

Journalists, film-makers, people in radio, television, audio-visual centres, and so forth, may come to mind first. Ask them. But make sure you evaluate what they say. They may be following the élitist, international visual style and may not give you good advice. The people who work in traditional media can help you, too. Housewives often know about decorations, clothing and food that have special meanings. You may also want to talk with the people who make statues for temples, or paintings on walls, or any other things, including everyday items like pots. Some of these people may be hard to find, (or easy to overlook) because they make traditional messages only for special occasions, or as part of another role. The oldest woman in a household, for instance, might make symbols for a holiday.

People who work in special areas such as medicine, agriculture and religion are also good sources of information. Doctors in hospitals and clinics, for example, often explain illnesses to illiterate patients with visual codes. They may use non-verbal eye-charts to test vision, etc.

Community and agricultural development workers often use visual materials to explain new ways to grow, harvest and store food. Perhaps they can tell you about which kinds of visual aids are most effective. And traditional groups, including religious groups, have been communicating information over long distances to many people for a long time. Often they use many media, both traditional and modern. They might explain how these communicate, and even how they allow for change.

People in public and private agencies and universities sometimes have special experience and skill in media such as painting, sculpture or film. They may know of cases where these media have been used in development. They can probably tell you about published information that is helpful—studies of your audience, for instance. Sometimes they have special libraries you can use.

And finally, talk to the people who will see the communications you collect. Talk to them to get feedback. They may understand from the illustrations something very different from that which the makers intended.

Reading for the information you need

Published information rarely takes the place of your own research. It can, however, provide valuable background and perspective. You can probably find studies of the modern mass media in relation to development at many levels, from local to international. All those we have read share the assumption that mass communication equals modern technology. That is unfortunate. But, they do offer some illuminating perspectives.

Information about traditional communication and media also exists, though it is widely scattered. Look for books and articles, about folk and fine art forms. Include costume, jewelry, everyday and ritual objects, dance—any form used by the culture to carry information. Check through social science publications for studies of the people you want to reach. You may even find studies of communication. Pulling together such information can be a valuable educational experience in itself.

Using the bibliography at the end of this monograph, and other sources you may have, write down the places and publications you think can supply information for your project. Include sources for information about traditional communication, as well as modern.

Some thoughts about statistics

Statistics are often a particularly valuable form of source material. They can, for example, tell you about the literacy rate, and the number of radios and newspapers among the people you want to reach. This kind of information is very useful when you are deciding on which medium to use. However, statistics are sometimes used uncritically, and so a word of warning is in order.

Statistics have usually been gathered for some other purpose, so be quite certain how they relate to your problem. Maybe, for example, they cover an area bigger than your project's. What if your project area is not typical of the country? What if the group you want to reach is not typical of the area? Statistics may not define topics or achievement as you would. People

can be officially literate, for example, and yet still unable to read 'difficult' material.

Let us look in more detail at how literacy statistics can mislead. Suppose you want to reach young rural women in a certain place. The statistics say 50 per cent of the adults in a larger area can read. Can you assume that half the women can read a message written at about the same level as the language in the local newspaper? No. They probably cannot, although it is hard to be sure.

In many places, more men than women are literate. Usually more people can read in cities than in the country. And the level of literacy acceptable to compile those statistics is often far lower than that needed to read the local newspaper. All this suggests that less than half of your intended audience will be able to read such a message. One circumstance is favourable, however. In recent years, many more people have learned to read. So younger women may be more literate than older ones.

By all means use statistics, but use them carefully. If you can, check and discuss them with some of the more informal sources mentioned above, people who are closer to the audience you want to reach.

What kinds of statistics could be helpful in your project? Where might you find them?

VISUAL INVENTORY: THE HEART OF VISUAL RESEARCH

You already know a lot about the visual language around you through living with it. Now you want to make your knowledge more objective and extend it beyond your own experience. This is because the visual language of various groups may be somewhat different from your own.

How people convey information with their bodies and dress must be taken into account in any realistic drawing style. Often, though, it is not. An artist who made drawings for literacy materials, for example, once told us how he selected the clothing of the people he drew. (He did not seem aware of body language at all.) He cycled to the nearest village in his project's district and copied what he saw there. If someone wore a turban, he drew that turban, and so forth. From what we have seen, his method is common. It is also the source of some serious misunderstandings. When many people who understand line-drawings and perspective (and some do not) look at such drawings, often they do not say, 'I see a man', which was the artist's intent. Instead, they say, 'I see an outcaste' or 'That man has just got married', etc.

Choose some communication that uses perspective line-drawings. Show several of them to someone in the intended audience. Ask that person to tell you what he or she sees. Do the drawings communicate accurately?

As we showed in Chapter I, people receive visual information in many ways. Knowing what these ways are and how they are understood by the group you want to reach can provide ideas for getting your own messages across. Not knowing about them can cause misunderstanding. For example, we were told in India that many people believe dark blue causes constipation. That does not exactly make dark blue a good colour choice for a pamphlet on the healthful preparation of food. We do not know of a case where this has actually happened, but we suspect that an accidental distortion of meaning such as this is not rare.

So the first step is to find out about the visual language your intended audience understands. You do this by collecting samples of the kinds of visual communications they see: that is, by making a visual inventory. Then you can find out how these examples communicate (or not) by asking questions based on the communication model. And from the successful examples, you can get ideas about how to make your own work communicate to the same people. In short, decisions about designing new visual messages are based on your visual inventory.

The best time to start this inventory is at the beginning of a project. If you want to help the workers in one factory or industry learn to read, you will need very different information from that needed for a broad programme of social change covering a wide area.

It also helps to make your inventory an ongoing effort. You may not be able to find out everything you want to know for one project. But what you learn from one can help you in the next, and save time. Eventually, teams working on different projects may be able to exchange data. In the future, a country's development communication teams might even send their research to some central source where they can request information in return. Artists would then have a kind of visual data bank. An in-depth description of a country's visual language could be compiled.

Meanwhile, even on a small scale, organizing data uniformly makes it easier to work with. The accompanying box is a checklist of points to consider when compiling your samples. The points are taken from the communication model, but they are arranged in a different order. They start with information you can get from the example itself and then go on to matters that need more information.

VISUAL INVENTORY CHECKLIST

Item number: .... Occurs (check one): often
fairly often
rarely

Medium
Check one: mediated unmediated
Check one: traditional modern
traditional content, modern medium
modern content, traditional medium
Form: ....
Method: ....
Treatment: ....
Colour use: ....
Kinds of symbolism: ....
Materials: ....
Production: ....
Distribution: ....
Sponsor: ....
Maker: ....
Audience: ....
Placement: ....
Senses used to receive: ....
Sources of noise: ....
Other notes: ....

FILLING IN THE COMMUNICATION MODEL: WHAT TO LOOK FOR?

Many different kinds of communication, visual and otherwise, go on around us all the time, but we are not used to thinking of them as communication. A wide sampling of the kinds of visual messages in your area will later provide you with a broad range of possibilities for making new messages. You will probably not use any of what you record exactly in the way that you saw it, so do not restrict yourself to the kinds of messages you know are relevant to your project. Once you know how they communicate, you may decide to combine features from several sources: the medium of one, some of the visual language in another, the distribution pattern of another, the form and production methods of yet another, and so on.

As we have said, we cannot tell you what you will find. That will vary in both kind and number, depending on where you are. But here are some suggestions for places to look and things to look for.

Unmediated communication

Unmediated communication can be found in body language and facial expressions, both conscious and unconscious. Look, too, for the ways people use personal space. Clothing, hair styles, ornaments such as jewelry and tattoos, and the other ways people adorn themselves should also be noted. So too should food, furnishings, houses and everyday objects. Also record the ways space communicates in the plans of towns, fields, buildings, etc. All of these can be raw materials in unmediated communication.

Traditional mediation

The visual and performing arts use many traditional media. Look at folk art more, perhaps, than fine art. Look at puppet shows, traditional dramas (and their props and costumes), fireworks and festivals.

Paintings and sculpture can appear on walls of houses, shops, public buildings, sacred buildings. Trucks, carts, buses, rickshaws, trees and rocks can carry these messages too. Others can be scratched, built or sprinkled on the earth. They can be made from almost anything—stones, mud, coloured sand, food, flowers, fire, light, smoke, and many other materials. What kinds of traditional mediation are there in your area?

Modern media

Your audience may be exposed to more kinds of modern media than you realize. Besides still and motion photography and television, there are many printed forms. We usually think of newspapers, books and magazines, but there are also posters, wall charts, brochures, advertisements, and many other kinds of promotional materials. Look, too, for packages and labels of manfactured goods and traffic signs. Election banners and many other political communications are often printed. Some good places to sample modern print communications include bulletin boards, kiosks and various kinds of exhibits and displays. What kinds of printed messages do your people see?

MAKING IDEAS VISIBLE

With the different media, there are various ways or methods of conveying ideas visually. These methods convey very different ideas depending on their treatment. Sampling the graphic methods and treatments that people come into contact with provides the research base from which you can analyse their visual language in order to use it in your own messages—creatively.

In this section we will discuss the three main graphic methods of visualizing ideas: words, pictures and diagrams, as well as some of their treatments. If you want to know more about visual language, Chapter III goes into the strengths and weaknesses of various visualizing methods and treatments as carriers of information, pp. 102–112. Then on pp. 116–127 it analyses their construction.

But first let us explain how designers use this term 'visualize'. Unlike 'paint', 'draw', 'film', etc., the word 'visualize' is not tied to any one medium. It focuses only on the idea of making *visible*. This helps us to separate the idea we are trying to communicate from the form that will carry it. In this way we do not think immediately of line-drawings, photographs or paintings. Instead, we think first of a concept. And *only then* do we decide on the best form, sometimes even medium, to carry it.

When we want to visualize ideas graphically, we can write them down in words, numbers, etc., which do not resemble the real world. Or we can represent them in pictures, or in three-dimensional objects such as sculpture. In various ways these do resemble things we see in the world. Or we can make diagrams to show the relationships between ideas, sometimes using words, pictures or both.

Three graphic methods: words, pictures and diagrams

Words as visualization

As we all know, the same words can be made to look very different. They can be larger or smaller. Their lines can be drawn thick or thin, and in some languages straight or slanted. Letters can stand out against their background to varying degrees. And all of these ways of visualizing them (or treatments) are a part of the words' meaning. They also affect legibility.

A. Choose a short piece of prose or poetry. Write it in a way that adds to what the words say.

B. Choose a set of directions or some other useful piece of information. Write it so that it will be easy to read in a specific setting where it might be used.

Words are also used with other elements to convey ideas graphically. In these cases, all the different elements should work together to make the message complete. This does not always happen.

See if you can find examples of the following in visual materials:

A. The intended audience cannot understand the message without understanding the words.
B. Words and pictures help each other by saying the same thing.
C. Words and pictures say something different but complement each other.
D. Words and pictures say something different and contradict each other.

This Indian poster needs words. Can the people it is meant for get the message?

This Swiss poster needs only a picture—and most of Switzerland is literate

As a communicator you should be aware of still another aspect of words, although as an artist it is not really your responsibility. Sometimes literate

people cannot read the messages meant for them. This happens when the reading level is too difficult, or the vernacular is not familiar. Visual vernacular can also be unfamiliar.

Pictures and other kinds of representation

Most literacy and other development materials rely on line-drawings in perspective. The next most popular choice for illustrations is photographs. Used in the right way, both can communicate effectively. One can get tired of being asked which is better—as if the choice were simple and only between these two. In the next chapter, we will take up the many other graphic possibilities, and the factors which influence their choice.

Meanwhile, there are numerous ways to represent things in the real world, more than you can count. These range from the very realistic to the very abstract. In between, orthographic or non-perspective drawings and pictographs are two other important visualizing methods. We will explain these terms.

Realism: What makes a picture realistic? Not its medium. We usually think of colour motion photography as being very realistic, but it can also be very abstract. So can painting, drawing, sculpture and still photographs.

In the United States and Europe, six factors seem to make for realism: (a) we must be able to recognize the scale—a finger drawn a metre wide does not look very real; (b) the shape, whether it is drawn, painted, sculpted or photographed, must be fairly clear—we have all seen pictures that are so fuzzy we do not know what they are. The other factors are: (c) recognizable detail; (d) colour derived from the real world; (e) motion, real or suggested; and (f) perspective—which suggests the whole list may be valid only from our Western perspective! You had better find out what the conventions of realistic representation are among your own audience.

Representation; free-hand drawing in perspective

Representation: a table drawn in perspective with mechanical tools.

Realistic drawing: people and a boat

Do the people you want to reach see pictures or other representations that include these factors of realism? Which ones? Do they have others that make things seem real?

Orthographic, or non-perspective, views: Orthographic views do not show an object or scene in perspective—that is, from one fixed point of view. Otherwise, orthographic views can be more or less realistic. Texture, realistic colour and shading that indicates volume all add to their realism. Without these techniques, orthographic views are more schematic and abstract.

Modern orthographic drawings are usually made with special mechanical drawing tools, according to one of several sets of conventions.

Mechanical orthographic drawing of a table shows proportions exactly

Freehand orthographic drawing of a table is not so exact

They are often used to show proportions and dimensions very accurately. When orthographic drawing is traditional to a culture, it is usually drawn freehand, and accuracy is not so important. In some places, only man-made objects and buildings can be drawn orthographically; natural things, including people, may not.

Orthographic non-perspective structures combined with realistic people and details: details from two Persian paintings and one, showing a house and two people, from Japan

Pictographs: Pictographs reproduce basic shapes and drop out details within them. Thus they identify general classes of things and make some distinctions easily. One shape, for example, can represent all types of tree, or several simple shapes can stand for several kinds of trees. Different pictographs are often used for men and women. But a pictograph does not individualize; it cannot tell you, for instance, that Mrs. *X* is old and fat and has three front teeth missing.

Stylistically, pictographs are usually line-drawings or flat, solid shapes. Sometimes shapes are overlapped to show distance, or one is drawn in front of another. Modern designers often use pictographs for signs, charts and directions. Many folk art styles use them, too. If you want to use them correctly, you should know the rules for making and using them in your culture.

Do pictographs occur in your area—Modern, traditional, or both? Why do you think that style was chosen in some particular instance?

Modern international pictograph of a table

International signs for man and woman

House decoration, Palau, Micronesia

Men and walrus: Canadian Eskimo

Chicken, Dahomey, Africa

Lions: fabric block print and decorations from a bicycle rickshaw, India

Abstractions: Sometimes the way things appear is changed to express ideas, feelings, or both. People looking only for realism often miss the subtlety, elegance and sophistication in many kinds of abstraction. Perhaps only those who know the culture's code for making them get the whole message.

Abstractions take many forms and have many purposes. Many very meaningful Moslem patterns are based on natural forms, abstracted to the point of geometry. Often in African sculpture, shapes and lines that convey an idea are exaggerated, and the rest is only suggested, or left out. Modern cartoons and other satiric works distort the real visual world in order to criticize. These forms of abstraction communicate to the viewer, sometimes giving very detailed information. Some of the abstractions of modern fine art are much more private. Sometimes they share with their audience only a general, but often powerful, feeling.

Do the people you want to reach see abstractions? What kinds—some of those listed above, or others? What rules do they seem to use in changing visual reality, into abstraction, and what kinds of ideas and feelings do they convey?

Abstract view of a table

Man and horse, Haiti

Hunter, North American Indian

Bird, Eskimo, Canada

Cartoon figure, U.S.A.

Satiric abstraction and self-portrait, Fred Zimmer

Face, Nigeria

Mexican bark paper figure

Japanese religious order's symbol on a lantern

Diagrams as visualization

This important way of showing relationships is often overlooked. Diagrams can be scientific, mathematical even mystical. They come in many forms that we do not usually think of as visual communication. We probably all use them without realizing we are doing so.

Mathematical and chemical formulas show relationships in a diagrammatical form. So do statistical charts and graphs. Any drawing that shows how things are put together, or work as a system, is a diagram. This includes drawings of the skeleton, muscles and other systems of the body. Many drawings used in botany, astronomy and geology show how parts are related. The parts can be bones, molecules, stars or the geology of the earth. Maps showing roads, towns and rivers are diagrams. So are plans of buildings, machines, cities or almost anything else.

Some diagrams show how things move. That is, they show processes, or sequences. A clock is a diagram in action. The face shows how hours, minutes and seconds are related. The hands show how time progresses through them. Musical scores diagram the relationships of sounds from the beginning to the end of a piece. Dance notations do the same with human movement—although not, so far, as well.

Many cultures use mystic diagrams. For example, the Hindu Vedic square, a large square divided into smaller, numbered ones, is a diagram of the universe with magical qualities. The Moslems have made an art of the mystic diagram. The beautiful patterns covering ceramics, carpets, metal work, textiles, books and other things often express complex relationships between religion and life. Many of these patterns are based on natural forms, such as flowers and crystals. As was said earlier, sometimes these forms have been abstracted into geometric forms.

Diagram using orthographic drawing to show how to construct a table

In fact, many diagrams are based on geometric shapes. Circles, squares, rectangles and triangles are common. So are more complex shapes. The spiral, for example, has had mystical meaning for many people, in many times and places. Mexicans, early Britons and Babylonians all used this shape. Modern mathematicians use it, too, to chart statistical information such as logarithmic population growth.

When diagrams are based on solid geometry, they can be made in three dimensions, or drawn in perspective or in some orthographic style. The ideas in diagrams can be visualized in words, numbers or some other convention, such as chemical notations. Pictographs are common. Realistic pictures and orthographic views do not turn up as often, but they can still be found. And several different ways of visualizing often occur in the same diagram.

We can find diagrams almost anywhere. They carry modern and scientific information in books, in charts, on the walls of classrooms, and so forth. Traditional diagrams often form patterns on all sorts of objects, both everyday and sacred. Sometimes diagrams are painted on walls for good fortune, or made three-dimensionally in the landscape. They can form the plans of gardens or ritual decorations made with sand, coloured earth, stones, etc. Some devotees of gods paint diagrams on their faces or bodies.

Try to be alert to the ways your audience uses this important way to visualize. It can help you organize many of your own visual messages effectively.

How many different kinds of diagrams can you think of in the place you are studying?

Yantric diagram, Nepal

Islamic decagonal star

Floor plan of a mosque

Symbolic diagram, China

Underground map, London, England

Statistical chart

Acupuncture diagram, China

COLOUR

Colour can communicate in many different ways. It can add to realism, or it can be symbolic. It can convey a mood. It can be purely decorative, or chosen for its visibility. It can even carry practical information, as it does in traffic lights, colour-coded machines, etc. It can also help to lead the eye through a design (p. 122).

Certain kinds of colour usually go along with certain visualizing styles. We expect realistic colour in realistic paintings, for instance. Abstractions often use colour non-realistically to convey information or feelings. However, realistic pictures can use unreal colour to convey a mood or to add symbolic meaning, and the colours chosen for pictographs on highway signs are chosen because they are easy for motorists to see at speed. So it is important to note what job colour is doing in anything you see.

Can you find examples of colour used realistically, decoratively, symbolically, informatively, in other ways?

Symbolic codes

As was said in Chapter I, a Christian Crucifix is not 'about' a man hanging from two pieces of wood. In Hindu art, a person coloured blue is not just a person. The blue tells us he is Lord Krishna.

Any element of a visual message can contribute meaning to it. Materials, shapes, lines, images, colours, the maker, the process, even the tools it is made with can be important. If you know which elements carry meaning and how, you will be better equipped to control the meaning in your own work.

The media themselves can have meaning, too. People committed to modernizing may find modern media progressive and good. To them, traditional media may well symbolize backwardness, as we learned dramatically. We showed pictures of holy men, village shrines and traditional Indian symbols to some Indian graduate students in the United States. They were studying to be engineers, agronomists and other kinds of development workers, and they could identify everything correctly. But when we analysed their responses, 'backward', 'superstition' and 'fraud' were typical statements. Needless to say, the people who make these things important parts of their lives do not feel so negatively about them. Perhaps they trust traditional media and find the modern ones alien and suspect. At any rate, the idea is worth looking into.

A. **Can you find any visual messages with symbolic elements? How are these communicated? Is the information general or specific, intellectual or emotional?**

B. **Does your audience include people who are not used to modern media, or committed to modernizing? If so, ask someone how he or she feels about the cinema or television. Or show him or her a modern printed message of some kind and try to find out how that person feels about it.**

Some kinds and uses of symbolism:

Realistic statue, Mexico: nationalistic

Non-representational flags, emblems of a Swedish cooperative

Representational wall-painting, Indian religious symbol

FINDING OUT MORE

Materials and meaning

When you have decided how the examples you have found make new ideas visible, you can start asking questions about them to obtain more information. For example, it is easy enough to see whether something is made of brass, wood, paper, etc. You may, however, have to ask people whether these materials have symbolic meaning and, if they do, what it is. At the same time, it is a good idea to ask them what the example means to them in other ways as well, and why. Doing this can give you some valuable clues about how the material used for visual messages might communicate meaning to the people you want to reach.

Production

If you come across a visual object which you think it will be useful to reproduce later on, investigate how it was produced. Note the equipment and materials needed and the approximate cost per item. Then you can decide whether making new visual messages in this way is a practical proposition. In general, large quantities of an item are much cheaper to make by machine than by hand. For a large project, machines may be the only choice. However, for smaller ones, think production costs through carefully. Sometimes machines can produce a few or many thousands of copies equally efficiently. Hand-made items are usually produced singly or in limited quantities, but costs in terms of personnel and time can be relatively higher than the same work performed by a machine.

What visual materials reaching your audience are cheapest when made in large quantities by machine? Or in smaller quantities by simpler machines? Or when made by hand? Could you use any of these production methods for the same kind of messages?

Distribution: how did the message get there?

There is little point in making messages that do not get to the people you want to reach. Finding out how the messages in your visual inventory got to where you found them may suggest some paths you can use yourself. Look into their efficiency. Perhaps the simplest kind of distribution happens when a man paints a sign on the wall of his house. Someone passes by and sees it. He gets the message. Communication is accomplished.

In contrast, present-day mass communication must reach many more people in order to be economical. For this reason, and because they are produced by people with highly technical skills, mass media communications are usually made in important centres. Then they are sent out over a wide area. Their distribution is often complicated—and expensive.

People sometimes travel in order to receive communication. An audience will go to see a puppet show, or a crowd will gather at a festival (where they might find printed messages to take home). People go to news-stands and libraries. Of course, they have a reason for being in these places. Learning the reasons why people gather in these places can help you to design materials that they would like to find there.

In this connexion, people often have to choose from what has already been selected for them. For example, someone decided what film will be shown in a cinema, what papers will be displayed at the news-stand, what books will be available at the library. This applies also to statues and paintings for temples; for food, toys, etc., at festivals. If the communication you design depends on someone choosing it, his standards must be kept in mind.

Pick out a few examples of visual communication and try to trace their paths from the makers to the audience. Try to use examples with a variety of distribution patterns. Do these patterns suggest any possibilities for getting your own visual messages to where you want them?

Sponsors

The crucial question about any piece of communication is whether or not it did what it was intended to do. If you do not know this information, you may find yourself making new messages using visual language that has already miscarried. Then you would just be repeating past mistakes. To find out what visual messages were meant to do, you need to know who sponsored them, and why. Often this is no problem. Different development groups, religious groups, businesses, etc., sponsor many messages, and often their purpose is evident.

Sometimes, though, people make things that communicate visually but they make those things without thinking. If the youngest woman in a household makes a decoration on a wall, for instance, it does not have a sponsor in the formal sense of the word. However, it may convey a message that spreads and maintains the beliefs of the group to which she belongs. In that sense, it does have a sponsor, and that sponsor has an intent.

Pick out some communication that does not have an obvious sponsor. Try to find out where the ideas it expresses come from and how the communication spreads or maintains them.

Once you know its intended purpose, you can find out whether the message succeeded. The best way to do this is by testing, and you may find some ideas that can help in the monograph on evaluation. Fortunately, not all evaluation methods are expensive or time-consuming.

Makers of visual messages

The skills of the makers of visual messages can be important too. These can vary all the way from the young woman mentioned above, who makes something because that is part of her social role, to a highly trained artist or film director. If you want to make a visual message communicate, one obvious consideration is whether or not the necessary skills are available.

Look over several kinds of visual communication. What skills were required to make them? Are these hard to come by or expensive? Would people have to be trained, or hired?

The audience for communication

When communicators start working on a project, their first question is often 'Who is the audience?' That is because the message must be designed so that it will have the right effect on the people it is meant for. They may, as we have said, react very differently from the planners or makers.

You will almost certainly need to know more about the group you want to reach. You may collect this information yourself, or someone else on the project may supply it.

Either way, here are some questions to think about, or ask: where do they live? How big is the area, and does the terrain pose any special communication problems? Can they read—and how well? (The monograph on writing for new literates in the current series of monographs discusses the important last part of this question.) Is the group limited by age, sex, occupation, or any other social or economic factor? Does it share any characteristics, attitudes or feelings that can influence their reaction to certain media and message forms? What technological media, such as films or television, can they receive? Are there design elements—styles, colours, decorations, etc.—or media that they like or dislike?

Using these questions as a guide, try to define your audience. What other factors can be important in communicating with them? What other information do you need? How can you get it?

The placement and setting of communication: Obviously, nothing communicates visually without being seen. Finding out where people see different kinds of messages can help you choose the right place for new ones. Their placement also helps determine the kind of attention people give them. And this in turn has many implications for effective design.

Here are some questions you might ask about a poster: Do many people pass it, or just a few? Who are they? Are they in a hurry? Do they stop? Do they talk about the poster with someone else? Do they react differently to new posters and old ones, and to posters made in different styles or about different subjects?

Similarly, ask yourself how many people pick up a book, magazine or pamphlet in a bar or a café, in a doctor's waiting room, in a club or library? What kind of people are they? Do they read, skim, look at the pictures? And so forth.

A leaflet that many people look at briefly should be designed very differently from one that people read slowly. Pictographs, diagrams and other visual devices can show the information and its relationships quickly. Copy can be laid out in short blocks. Headlines can tell people what is in each section. A book meant to be read carefully at home usually depends more on words to explore subtleties of thought. People may learn more from it. But first they must be able to read it. There must also be some way for them to take it home—and some reason why they want to.

Some communications work best when people see them as a group. Effective discussion forums in several countries have been based on this principle. People listen to the radio or watch television together. They then discuss the information with a leader. They get ideas from each other. Sometimes they decide to do things together. We do not know whether similar forums have been based on the cheaper print media, but the idea is worth trying.

Try to pick out a visual message that is designed well for the setting in which it will be received. Try to find another that is not. How could the latter have been designed more effectively?

How is the communication received: with what senses? In dance we see performers move. They wear costumes. Music, light, even the audience, contribute to the whole message. Perhaps a printed programme for the audience to take home sums up that message.

Graphic communications have texture and weight, and some can be felt as well as seen. You should make a note of all the senses that communications can be received with. For multi-media communication events,

analyse how *all* the means of communication work—and work together—and through which senses.

Pick out a communication that requires sight as well as one or more other senses. Decide what role sight plays in the total message. Does it communicate the main information or does it play a supporting role to the information conveyed by other senses?

NOISE: A BARRIER TO COMMUNICATION

When communication succeeds, the right people receive the message as planned. But there are many reasons why this sometimes does not happen. Anything which stops a message getting through is called 'noise'. 'Visual noise'—the kind we are most concerned with—is seen and not heard.

Visual and other noise can occur anywhere in the communication process. Noise may have been unintentionally built into the design of visual communication by a bad choice of lettering or colour. Psychological noise may happen if the audience has the wrong feelings about a message. Noise can come from the setting too: there may not be enough light to read by; it may not be dark enough in the early evening for people to see the film clearly in an outdoor cinema; dust and rain may weather a poster or painting until it is obscure; and so on.

Choose a visual message that seems to contain 'noise'. What keeps the message from getting through? Could the noise have been avoided? If so, how?

FEEDBACK

Knowing how well a communication worked is invaluable information for planning the next one. Look through your visual inventory for particularly successful examples. Did the people who made them have some way of finding out how the audience responded to them? It is always useful to get feedback on your communications. Often, valuable feedback may be available just for the labour of listening to people. At other times more elaborate testing may be necessary.

Can you think of an easy way to get feedback for one of your visual messages?

Sample: modern medium, United States book cover

VISUAL INVENTORY CHECKLISTS

Item number: 10,000 books

Occurs (check one) often X
fairly often
rarely

Medium Print
Check one: mediated X unmediated
check one: traditional modern X
traditional content, modern medium
modern content X traditional medium
Form: Book cover
Method: Words, diagram symmetrical
Treatment: Line drawings, modern typography somewhat metaphoric (suggests a television set and a tuning dial)
Colour use: Black & white
Kinds of symbolism: iTV stands for Instructional Television
Lines connecting the I and the V symbolize the promise into practice, like a rainbow

Materials: Paper, ink
Production: Hand drawn lines, type set, positioned for offset printing
Distribution: Pick-up, by truck, by mail
Sponsor: Ohio Department of Education
Maker: Authors Bonnie Gilliam, Anne Zimmer Designer Fred Zimmer
Printer, W.P. Simpson Co.
Audience: Public School teachers, grades 1-12, U.S.A
Placement: at home and in classroom
Senses used to receive: primarily sight; secondarily touch
Sources of noise: Pre-biases about teaching with television
Attitudes about Television
Attitudes about instructional books

Other notes: Cost $2

Sample: traditional medium, Mexico wall painting

VISUAL INVENTORY CHECKLIST

Item number: One wall painting
Occurs (check one) often
x fairly often
rarely

Check one: mediated x unmediated

check one: traditional X modern
traditional content x modern medium
modern content traditional medium x

Form: Wall painting on a house

Method: Abstract representation, words, numbers
Use of symmetry

Treatment: painted lines to show a central figure of a person surrounded by flowers, buildings, Mexico, etc. to show excitement, simplicity directness of expression

Colour use: white paint on brown background

Kinds of symbolism: Nationalistic, individual pride
a private painted view of the world
to share with viewers

Materials: White chemical powder mixed with water, applied to adobe-earth bricks

Production: hand painted with brushes

Distribution: Stationary

Sponsor: House owner

Maker: House owner with children helping

Audience: The community, also passing viewers on nearby highway

Placement: On the north wall at eye level on outside of house

Senses used to receive: Sight

Sources of noise may not be ~~too~~ legible due to fast moving people on highway, confusion about owner's intentions, rain may cause painting to fade

Other notes: Seems to be the only such item in the village

Analysing visual language: an overview

As you collect your visual inventory and think about how your visuals communicate, you will probably find that you can make some generalizations. Perhaps, for example, your intended audience is only familiar with a few mediated methods of visual communication. Or, perhaps there are only a few methods that ever reach them successfully. In this case you will not have much choice of new media for making messages. Either you will adapt their present visual language to what you want to say, or you will teach them a new visual language with your new materials—probably you will do a little of both.

However, if your audience is familiar with many different methods of visual communication, the situation, though more promising, may be harder to sum up. Here are some questions that may help: what methods do they seem to like best? Which do they understand best? Which type seems to get through to everyone you want to reach?

As you think about the best combinations of medium and visual language, remember that modernizing information, modern media and international visual language may not always go together. Similarly traditional media, culturally-oriented visual language and local information may not be inseparable. Traditional visual language may be adapted to modern media and carry modernizing information. Perhaps traditional media can carry modern messages too. If the people you want to reach are having difficulty in understanding the modernizing information carried by international visual language through modern media, one of the combinations suggested above may be your best bet. But whatever your decision, it should be based on the evidence in your visual inventory.

We realize we are raising some complicated matters here. At least in the beginning some of your visual strategies may have to proceed from informed hunches. If you can, though, test the most important ones by some appropriate methods. You can use one from the monograph on evaluation or some other expert source, or you can work out a more informal inquiry based on the questions and exercises in this chapter.

MORRIS'S THEORY OF SIGNS

To put information into any visual language, you need to know the rules of that language. Charles Morris's theory of signs provides a good way to analyse visual and other communications. To Morris, signs have three

aspects or dimensions. He summed them up like this: *A sign refers to something for someone.*

In this simple sentence, we have (a) the sign itself, with its organization or syntax; (b) what it refers to, or its semantic dimension; and (c) how a person uses it, or its pragmatic dimension. Only in the pragmatic dimension does a sign truly have meaning. For, as we said earlier, meanings are in people, not in messages.

Syntax of visual language

Visual syntax: for verbal forms, lines combine into letters, which create a meaningful word

For visual forms, lines combine to make a meaningful shape

In visual language, the syntax is made up of shapes, lines, textures, tones, patterns and colours. These can all be organized in different ways, just as words in verbal languages can. If you know two languages, try this: Translate a sentence word for word from one language to the other. Confusing, isn't it? And how much more confusing if you use the many visual elements instead of only words!

Most people, designers included, use visual syntax unconsciously. There is little problem, so long as they stick to their own visual language. But if you use some *other* borrowed visual language and do not get the syntax right, the results will be as garbled as Swahili constructed like Spanish.

In Step 12, Chapter III, page 115, we give detailed explanations about building visual syntax. From it, you can get some ideas about what to look for in analysing the syntax of items in your visual inventory. Much remains to be known, however, even about the syntax of international graphic styles. Perhaps in time you can compile a visual grammar of your culture.

Look through the different kinds of mediated visual communication in your inventory. Do they seem to differ in their syntax? Does a certain kind of syntax seem tied to certain styles, media or subjects? Do some kinds of syntax seem to be understood better than others?

The semantic dimension of visuals

Have you ever read something that sounded right and seemed familiar —yet you could not understand it? Probably you knew the syntax but did not know what the words meant. Nonsense writers often do this for fun. A famous example in English is Lewis Carroll's *The Jabberwocky*. It begins, ''Twas brillig and the slithy toves/Did gyre and gimble in the wabe.' Here, according to Morris, the semantic dimension is missing.

In visual communication, most people would say that semantic meaning is in the subjects of the pictures. As we have seen, however, visual communication has other ways to refer to ideas as well. Colours, materials, even makers and processes, can symbolize things and ideas. When they do, they have a semantic dimension.

In looking over the visual languages in your inventory, try to see all the ways they refer to ideas and things. Perhaps in time you can compile a visual dictionary. Meanwhile, ask yourself whether the semantic dimension works differently between traditional visual language and the international visual style. If so, what happens when modern graphics use elements with traditional meanings? For example, if a red circle traditionally stands for good fortune, how do people interpret a child's red ball in an international

primer? What about a red house? A green ball? In other words, what visual element or combination carries the meaning, and do traditional meaning codes carry over into modern graphic styles—perhaps unrecognized by their makers? We suspect this often happens.

Does anything similar happen in your inventory? If you have a modern visual message that uses elements also carrying traditional meaning, show it to someone in your intended audience to get feedback.

Pragmatic meaning of visuals

In Morris's theory, how people think, feel or act as a result of a message *is* its meaning. Whether or not you agree, your new communications will succeed only if they have the effect you want them to have. To do this they must, of course, use the syntactical and semantic dimensions in ways the audience understands. They must also appeal to the audience appropriately. Here the stylistic devices in your inventory and your knowledge of how these affect your audience can be extremely helpful—especially when the new information is not entirely welcome or eagerly sought. Favourite communication forms, colours and devices—like visual wit—can, if appropriate, help create a favourable feeling toward the new message. But, ultimately, the test of a good visual is—are the viewers able to relate, respond, act as suggested?

Pick out some examples in which all the elements of a visual work together to produce a message with the right pragmatic meaning. Where do some of the others seem to go wrong, if they do?

Summary

Communication for development is not making things; it is making things happen. Communication is a process, and if the right things are to happen, all the parts of that process must work together.

The first job of the visual communicator is not to draw pictures. It is to find out what visual communication is already going on among the people he wants to reach, and to get the other information he needs in order to design materials that communicate properly. To do this he makes a collection, called a 'visual inventory'. Instead of putting together elegant designs from all over the world, he samples the visual communication his intended audience already sees. Then he finds out how—and whether—these examples communicate by asking questions based on a model of the com-

munication process. The visual language of the successful visual messages can then be analysed. Then, when appropriate, it can be used in new visual messages.

The next chapter builds on this research base. It takes up designing communication, and making visual communication, that takes advantage of existing communication patterns and processes in a community or culture. Doing this should increase your chances of making the right things happen.

CHAPTER III

Designing visual messages

In the first two chapters we have said repeatedly that visuals and other ways of communicating should be designed to get the right message to the right people so that the right things happen. Now the time has come to say how this should be done. Essentially, this is what should happen: you start by deciding your purpose and you explore its communication implications; then you develop your plans; you make and reproduce your message; and the process is completed by distribution and evaluation.

The visual inventory discussed in Chapter II should provide a storehouse of ideas. You can find in it visual forms, styles, graphic methods and treatments which will already be understood by the people you want to reach. The different ways that meaning has been built into messages in your visual inventory should suggest methods for making new messages. Established distribution patterns should point to similar paths you might use. You can avoid 'noise' more easily when some of the potential sources have been identified in the inventory. Sometimes you might even find ideas for recruiting staff and methods of production through your inventory. And if, unhappily, your research has provided little material, at least you will have a better idea of the size and shape of the void to be filled.

The job now is to bring together this research with the communication problem at hand and the resources available for solving it. The task is also to find ways to translate new visual messages into a form that your audience will understand, if possible.

The systematic process for doing so presented on the following pages has been developed from well-known methods of problem solving. Visual communication students at The Ohio State University have used it in many contexts. These include public service and a wide variety of community communication projects. Here we have tried to adapt it for use in other contexts and other cultures. We hope it will be useful to you, and we hope to hear how you have used it.

The design process: its purpose and uses

We feel that an important reason why visuals so often do a poor job in communication for development is that they are based on mistaken ideas. Too often, thinking has been confined to a few visual media, styles and forms, simply because we have worked from borrowed assumptions related to alien contexts. Many alternative possibilities have gone unseen, and the choices made have been regrettably and unnecessarily limited.

The process recommended here does little more than make objective and orderly many of the things that planners and designers are already doing. But by making decisions objectively, you should be able to look more easily into the assumptions behind them. Doing this may open new doors. And proceeding step by step can help you look through these doors before starting on a perhaps long and costly trip—and perhaps in the wrong direction! In short, we think the process can help you visually translate your communication intentions into the right effect on the right audience.

Media heads and project directors may say they do not have the time and resources to do everything recommended here. It may not be necessary for you always to carry out all the steps described here. In any case, the realities of time and money are accounted for. Many steps can be gone through quickly, especially with practice. This kind of research and planning can help you cut down on wasted effort. It can help you solve the right problem, and even a modest project that does what it is supposed to do is more effective than a diffuse one that misses the point. And if artists and designers are shaking their heads over what they think are the non-visual topics, we can only say—look closely; they are meant to help you become visual communicators.

Of course the size, scope, practical reality and cultural context of different projects in different places will vary tremendously. Different people will necessarily use different parts of the plan presented here, and often in a quite different manner. A high-level planner, for example, should find the discussion on the planning aspect a useful way to organize data in order to set priorities. The rest of the discussion on the design process might act as a guide for him when administering the visual side of projects and evaluating the results. Project planners, artists and other members of professional communication teams can use the structures of the design process described below as common ground—they can meet on it and work from it, even though their directions will diverge.

But what of the lone field worker carrying out someone else's ideas, coping with many problems, and caught in often fierce constraints of time

and money? We think that he too can profit from the discussion. Let us use him as an example. In this way others too may be able to see more clearly the uses of the procedure proposed below.

An example: Let us think of a village-level worker conducting literacy classes based on radio broadcasts. Although he can make suggestions, he cannot control the content of the broadcasts. Probably, he can obtain materials produced at a central location. But his job includes creating ways for people to practise reading and writing, and he works with little more than his own ingenuity. He was not chosen for his drawing skills, so let us make things a little harder. Our worker cannot draw well.

In the present situation he does need some visuals, so he probably makes some line-drawings in perspective—badly. These are reproduced as cheaply as possible—also badly. Consequently, he often spends class time explaining what he has drawn. These drawings have a limited role. In the beginning the students are expected to name many of the drawings. Later on, they write simple sentences or answer questions about them. The students may fasten the sheets together as a workbook.

Our field worker, however, has one important advantage over more professionally trained people who plan and make materials at a centralized location for distribution to people they do not know. He *does* know his audience—and well. Therefore, he does not have to gather nearly as much information, although he may need to make more objective some of the things that he does know. He can only collect his visual inventory in the local area. Finding out about the facilities for making new messages is one of the main tasks ahead. His choices are probably not great, so it should not be hard. However, he may want to look into some of the suggested cheaper ways to reproduce visuals, and some other possibilities besides print.

He may not bother with the work plan: that is another step in the design process; or he may decide that a simple work plan is a good way to see how everything he has to do is related in time, and when it is best to do what. And a final big advantage: he can find out as he goes along which materials do their job best, so he can repeat and build on his successes.

The most important parts of the design process for such a worker are probably: choosing the form or forms; deciding on graphic methods and treatments; and making visual messages. These last two parts are covered later in detail (see step 10 and step 12). So let us look now at how he thinks about the kinds of materials he might develop.

Checking across the communication model and summarizing what it implies for his goals and resources may suggest a lot of ideas besides

workbooks. If his class is in a factory, reading and writing might begin with signs for different parts of the building, or for the workers' own machines. Farmers could work with labelled diagrams of some process they needed to learn, such as the diagram for transplanting coffee trees we mentioned at the beginning of Chapter I—without perspective if the farmers do not understand perspective. Or they could use some set of measurements for planting, harvesting or selling their crop. Women could work on charts of important nutritional information, good meal plans, etc., and stick them up in their kitchens. And with any of these groups, the field worker could plan his visuals so that many were used several times. They could appear first as pictures to be named. Then they could be made into a visual-verbal dictionary. Later they could stand at the head of informative pamphlets about each subject. This plan would save him work and establish the continuity of the information at the same time.

Of the many other possibilities, we cannot resist adding just one. Perhaps our field worker can find ways for his class to learn by making some of their own materials. Then he could make sure people understood their own visuals! He would also be involving them more closely in learning—as educators recommend. And he would take pressure off his own lack of drawing skill. He would have to plan carefully, though.

Who is on the design team?

Before we go through the design process in detail, we want to take up briefly the question of who makes designing decisions and how. Many communication projects bring together writers, artists, photographers, administrators and technicians. Sometimes they include others, such as actors, dancers and musicians. These people represent a wide range of experience, skills and perspectives, and they should be involved in making decisions. The resulting pool of possibilities will almost certainly be wider than when a few people at the top decide most matters. It may also help the project to make more effective use of their skills. And in the dynamic spirit of co-operation that can result, everyone is likely to work harder and with a better sense of purpose.

Such wide participation can create chaos, as well as creativity. But in a systematic, step-by-step process, people can contribute ideas on certain matters at specific times. Each person has his own job and responsibilities. Administrators do not give up their roles as decision-makers. Instead, they have more ideas and information on which to base their decisions.

Depending on the project, people can contribute ideas formally or informally. Group planning works best when many points of view are needed. For instance, it is good for thinking up ideas and discussing their strong and weak points. The best number is six to eight people. In larger groups, a few people usually dominate and the rest sit back. On very large projects, perhaps members within each section could meet. Then representatives from different sections could meet and discuss the ideas, and add more.

The design process—step by step

As you go through this discussion of the design process, you will, of course, need to adapt it to your own situation. The exercises printed in bold type can help you. They may also be useful to help you think through a communication problem of your own. Then you will have a headstart in solving it. If you are not an artist, you can still decide how things should look, and why. If they do not come out looking the way you wanted them to, you can then discuss with the artist why they are not as effective as you wished. Together you can work to correct the situation.

THE PLANNING PHASE

Step 1: Defining the problem and setting goals
Since everything will be aimed at reaching some goal, the first step is to decide on that goal. Do not jump immediately to thinking about what you want to produce. Instead, think about what you want to happen. You might think first about the people you want to reach, and then about the effect you want your project to have on them. Should they learn something from it? What is it? Should they do something because of it? What? Should they feel differently after seeing it? How? Perhaps all of these

Writing down your goal as definitely as possible will make it easier to evaluate your project later. Perhaps the monograph on evaluation in this series or some other source of advice can show you some form to use. Otherwise, try to put it down on paper so that some objective way to find out the effect can be used. The questions in the preceding paragraph may supply some ideas.

And do try to be realistic. When a lot needs to be done and money is in short supply, sometimes people try to do too much with too little. Sometimes, too, you can accomplish more when you try to do less. Suppose, for example, your team is part of a larger literacy campaign. The over-all goal is to increase the number of people who can read by x per cent. One primer cannot possibly do the whole job. So you should decide from the beginning what part of the job your own project *will* do.

Write down your goal as specifically and objectively as possible.

Step 2: Analysing the problem with the communication model

The next step is to lay out the problem piece by piece along the communication model. Doing this will show you what you know and what you still need to know in order to choose a good form for the project—one that communicates correctly and is also practical to make and distribute.

Some designers write the pertinent information on cards. They stick these cards on a large drawing of the communication model, where everyone can see them easily. If different information becomes important —and it probably will—the cards can be changed.

The first main block of the model concerns the *institutional setting.* Within it, the purpose of the communication is your goal, already summarized in Step 1. This goal is no doubt meant to advance some of the institution's aims and ways of thinking. But there may also be other ideas, ideals, policies or philosophies that conflict with otherwise good design solutions. Sometimes even personalities and personal biases must be taken into account, although probably not publicly. (A good way to counter such resistance is to show, objectively, why a message will do the intended job well—all the way across the communication model!)

Organizations may also be able to aid certain communication projects more than others. A distribution network, for example, might do well for printed messages but not a puppet show. And also consider how the audience already feels about the sponsoring institution. Do the people you want to reach know it exists? Do they trust it, obey it, ignore it? These attitudes can influence the decision about the best way to make the communication. Try to be objective, even about your own organization.

Then comes the design team's skills. There is little use in planning a project that cannot be carried out—or in not using the many skills that are available. Some kinds of projects may call for a change of staff. This factor should certainly be considered at an early stage.

Under the *message*, the second block of the communication model, enter the most successful visual media, forms, etc., from the visual inventory. Also include the same kinds of information about important non-visual forms, such as radio and storytelling. Each form does not have to be accounted for at every stage of the model. Instead, list the most successful forms, methods and treatments; the best possibilities for materials; the best production and distribution methods, etc. Then, later, you may be able to combine several of these characteristics in the new communication technique.

When you consider the *audience*, think about both who it includes and how it is limited. Note where people live, their age, sex, etc. Enter any other facts that affect how messages can best be made to reach them. Include the

literacy rate and level, and facilities for receiving messages, such as libraries, cinemas, radios and festivals, and other settings of traditional media. Note, too, where people come in contact with messages. Let us say, for example, that you want to reach village women. If most of them go to the well or the market, these might be good places to put things you want them to see. If they rarely leave their houses, though, you will have to find some form that goes into those houses, and some reason for it to do so. Also think about the senses with which people receive messages, for you want to use the same combinations. As for the important matter of response, find out which of your messages or message elements have been received most favourably, especially if they seem pertinent to the kinds of things you will be trying to do. Some of these possible purposes of visuals include: (a) showing someone how to do something; (b) providing practice in using some skill; (c) informing; (d) persuading; (e) creating a mood; or (f) describing.

Fill in the communication model with the information that seems most appropriate. Use the model presented at the beginning of Chapter II, or another, and put the information on cards or slips of paper if that seems easier—for example, there may be a lot of information, or you think the most important facts may change.

Step 3: Making a work plan with budgets, schedules, assignments

When the work to be done has been outlined on your communication model, you can begin thinking about the resources available for planning, making and distributing your project. Many decisions will have to wait until the main form of the project is set, but thinking ahead now will help you to decide which forms are feasible. As you may guess, we think that spending time—and money—in planning can help to ensure the success of your project.

For complex projects, we suggest using a flow chart like the examples shown on page 88. Such a diagram helps you see graphically the time you need for each piece. It also shows which jobs must be done first; which can be done at the same time; and which must wait until the others are finished. If you add information about costs, facilities to use and who will do what, you have a master plan for the whole project. Other people can use it to check their own responsibilities and deadlines.

Of course, spreading out the parts on a flow chart does not mean they will all be done on schedule. When problems arise, though, you can easily see how one change affects the whole. If there is a delay in one place, for example, you can see if speeding up in another will help. Or is it better to drop that—and what will happen if you do? Similarly, when cost is the problem, you can decide which piece can be done more cheaply with the least harm to the whole project design. If the project goes faster or costs less than planned, the flow chart can also help you decide what change will bring most benefit to the whole plan. Unfortunately, however, being in the fortunate position of having to make this happy decision does not happen very often.

Decide if you will need a flow chart. If so, begin to fill in one like those shown on page 88, or make another that is more suitable.

Step 4: Gathering more data

You may very well have to get more information to fill in gaps in the communication model. The graphic designer in particular has to know about the technical facilities available for making and distributing new messages. If the basic information has been collected for a previous project, bringing it up to date should be easy. If not, it is a good idea to look into these technical details early. Some minor matter, easily overlooked, can be important later. If, for example, only certain sizes of presses, kinds of cameras and typefaces are available, printed projects must be planned with these restrictions in mind. Even the availability of inks and papers can affect the design choice.

There are so many variables it is hard to predict the effect of any one detail. For example, if wages are low, setting type by hand may not be a big problem. Enough time must be allowed for this, but if the typesetters are not skilled, or the equipment is old, lines may be uneven. On the other hand, if wages are high, the cost of hand-setting can be high. Large blocks of type in the message may not be a good choice if the budget is very limited.

On the following pages some sample checklists are given which you can use in finding out about the technical details to consider for print and traditional media. You may, of course, have to change them to suit your own situation. We have included some notes about the advantages and disadvantages of these media as communication, since these factors should also be kept in mind.

CHECKLIST I MODERN MASS MEDIA—PRINT

Advantages: Messages are reproduced easily and quickly—and cheaply as well. Unlike radio, television, film, etc., printed messages remain after the event for people to keep, use, study and pass on. This is often a good choice when the same information goes to many people.

Disadvantages: Preparing the message for reproduction can be expensive. It can also require skills and facilities in short supply. Often print does not make as much impression as radio, television, film, and some traditional media. It is less suitable for communicating some kinds of information, such as, for example, processes involving time and motion.

Implications for design: Try to make printed materials interesting and appealing. Consider teaming print with other media that have impact but do not leave messages behind. Examples: films, slide shows, puppet shows, festivals. etc. Pay special attention to visualizing the messages which illustrate abstract *concepts* as well as concepts of time and motion.

Check visual inventory: Find appropriate ways to make messages interesting. How does your audience feel about, understand and respond to modern print media and 'international' graphic conventions?

Remember: Print media and 'international' graphic conventions do not *have* to go together. Print media can be combined with traditional and folk media.

Factors influencing reproduction: Where applicable, check the availability, quality, cost and time required for the following:

1. Methods available: letterpress, offset (lithography), gravure, silk screen, etc.

2. Specifications of equipment.

(a) colour: single colour to full-colour reproduction;

(b) registration: crude to fine;

(c) size of printing surface;

(d) number of copies that can be produced (per hour, day, etc.).

3. Preparation of materials.

(a) Location of facilities: inside your institution or elsewhere;

(b) Techniques:

Photography—(*i*) equipment: cameras, lenses, lighting filters, screens, (*ii*) processing materials: film and printing papers, chemicals, darkroom, etc., (*iii*) facilities for printing and storing;

Handgraphics (visualizations made by hand)—(*i*) whether drawing, painting, lettering, diagrams, etc., (*ii*) supplies, equipment and special processes;

Typography—(*i*) methods of typesetting: by hand, machine, photography, computer, (*ii*) type faces: styles, sizes, weights (bold to light), (*iii*) Copy preparation: system for marking copy to fit (what is it?), numbers and kinds of proofs

4. *Printing.*

(a) Printer:
Location;
Production schedule;
Ways to check on work in progress;
Way of estimating costs.

(b) Preparation of plates:
Halftones and line screens;
Enlarging and reducing to scale;
Photographic platemaking processes.

(c) Materials:
Paper—(*i*) sizes, weights, colours, finishes, (*ii*) performance when printed, folded, bound, (*iii*) durability.
Inks—(*i*) colours, (*ii*) performance in multi-colour press runs, transparency or opacity (affects final colours), drying time (affects printing time).

(d) Management of other printing procedures:
Numbers and kinds of proofs;
Folding, binding, packaging.

5. *Distribution.*

(a) Methods: truck, train, car, cart, plane, etc.;
(b) Facilities for storing and receiving;
(c) Methods of billing and payment.

6. *Possible sources of 'noise'.*

(a) Bad reproduction (from what part of the process?);
(b) Bad reception: light, climate, distractions, etc.

7. *Estimated cost.*

(a) Over-all cost;
(b) Possible methods of payment;
(c) Cost per person in the audience.

Some print forms: Books, pamphlets, charts, catalogues, newspapers, magazines, posters, flashcards, programmes of performances and events, billboards, labels.

Some smaller scale, cheaper ways to print information: Blue prints, carbon paper, diazo, gelatine, using ditto marks, still photographs (contact prints are cheapest), stamps (rubber, wood, stone, etc.), stencils, microfilm, silk screen, xerography, mimeography, typing.

Some ways to display printed information: Bulletin, felt and flannel boards; easels; two and three-dimensional exhibits; posting on walls, etc.; overhead and other projectors. Record players and tape recorders can be used to add sound for a multi-media show.

Note: Textbooks and articles on audiovisual communication suggest even more possibilities and tell in detail how to make various visual materials. A few good sources of this kind of help are in the bibliography.

Do you think you might use print? If so, try filling in this checklist. If you do not want to get all the information now, make a note of the information you still need and decide how to get it.

CHECKLIST II TRADITIONAL MEDIA

Traditional media can take many forms, so this list is not as complete as the first. Nevertheless, it should help you to see the kinds of things to check on.

Advantages: Usually much cheaper to make. Forms and codes are usually well accepted and understood by traditional audiences.

Disadvantages: Often little or no saving when communications are made in quantity. May be looked down on by some (modernized) audiences or people anxious for change.

Design implications: Can be a good choice when projects are small and aimed at traditional groups. Also consider using traditional codes in mass-produced media.

Traditional media factors: Check availability, cost, tradition of making and use when appropriate:

A. MEDIA

1. Two-dimensional.

(a) Forms: paintings, drawings, charts, etc.

(b) Locations:

On walls—private houses, shops, temples, public buildings, etc.;
On floors—earth, grass, wood, etc.;
On roadsides, hillsides, and on natural objects such as trees;
At festivals;
On objects.

2. Three-dimensional.

(a) Forms: sculpture, household items, shrines, toys, food, clothing, other body adornments, etc.

(b) Locations:

At village wells, ponds, town centres;
Along streets, roads, paths;
On people;
At festivals.

3. Multi-media.

(a) Dramatic presentations:

Plays—with actors, musicians, dancers, etc.;
Puppet, marionette and shadow puppet shows;
Dances, etc.

(b) Special events:

Religious and other fairs, holidays, festivals;
Elections and other political occasions.

B. MATERIALS AND SUPPLIES

1. *Materials:* cloth, paper, mud, bamboo, wattles, stones, clay, earth, light, fireworks, etc.
2. *Art supplies and tools:* brushes, pens, pigments (earth, vegetable, chemical) and carriers of pigments—oil, water, milk, etc.

C. MAKERS: their roles and skills.

D. PRODUCTION PROCEDURES: personnel, facilities, organization, schedules, cost.

E. DURABILITY.

F. DISTRIBUTION: placement and removal.

G. POSSIBLE NOISE FACTORS: environment (rain, dust, frost, etc.), location, bad lighting, audience attitudes.

H. COST.

1. Over-all estimate.
2. Possible methods of payment.
3. Cost per person.

Are there some ways that traditional media might play a part—large or small—in your project? Try to jot down a few. Then think about which of these possibilities—or others–you could use, and what they would accomplish. If appropriate, fill out the checklist or make notes on the details you would need to know.

Step 5: Summarizing the data

With the relevant facts in your possession, you can start thinking about what those facts mean to your new project. Different people will probably see very different implications. If there are several people on the project, you may want to have a meeting with them. Or people might examine the information on their own and bring their comments to the discussion of the next step—choosing the form.

In any case, the communication model can keep you from drowning in detail. Look at each part and sum up what the facts suggest at that point. For example, the sponsor's policy may favour some kinds of projects but not others. People may like some form or medium and dislike another, or like or understand some visual codes and not others. The skills needed for some of the suggested projects may be cheaper or more available than for others. And so forth. And if our communication model is not a good way to show the most relevant information, you may want to work out a better one. Just make sure it includes all the parts of the communication process.

Using an appropriate communication model, sum up what the relevant facts imply about ways to put your project together.

Step 6: Choosing the form for the project

This is a crucial step where you will decide on the form for your project. It may not involve visuals at all. However, we are particularly concerned with the visual possibilities, and this is the time to consider them. The information to think about includes the visual inventory and the details about facilities for making new messages, both summarized in the previous step. Then, if you want to get an overview of the visual possibilities, you may want to look ahead to Step 10(b): *Communication strengths and weaknesses of some visualizing methods and treatments*, and Step 12: *Making content visible* which discusses ways to construct visual messages.

There may be many possible choices. Along with primers, workbooks, etc., a literacy campaign might use wall charts, posters, paintings, even a puppet show or some other performance to motivate or reinforce learning. Sometimes, as with the field worker in our example given earlier where radio carried the main content of the lessons, you might not even need a text.

This is a good time to get some different ideas, and think about them from different points of view. So, as we said in the previous step, it is a good time to have a meeting to decide how best to achieve your over-all goal. You will be thinking about the information summarized on the communication model, and relating it to the opportunities and constraints indicated on your work plan. Putting these three key pieces of information where everyone can see them and referring to them can help people stick to the subject, and explore it thoroughly.

If you are in charge of such a meeting, your main job is to encourage the members of the design team to express their ideas for the project freely. Especially at first, many of these will be impractical. However, they may suggest other ideas that will work—and would not have been thought of otherwise. You might start people thinking by asking questions about the people you want to reach. What communication forms do they seem to like and understand? How can you expect them to feel about your goal? Do you need to convince them, entertain them?

Later, the most promising ideas can be checked carefully across the communication model. How do ideas that suit one part of the model fit others? What are the practical advantages of the best ideas? The difficulties?

Here are some questions you can use to evaluate the proposed design solutions:

1. *Can the form carry the content effectively?* Different forms and media do some jobs better than others. Make sure your choice can do the job that is required of it.
2. *Will it reach the people you want to reach?* Think through how your intended audience will come in contact with the message. What problems must be solved to make sure they see it?
3. *Will it have the effect you want?* This is probably the most important question—and the hardest to answer. By now, you should have a good idea of how your audience will react to the forms and media you are considering. In all but the largest projects, that should be enough. However, if you can, you may eventually be able to try out a piece of your project on a sample of your audience.
4. *What is the estimated cost per receiver?* The answer ought to be the deciding factor in choosing between two projects that would work equally well, for it measures cost in terms of communication. Often, though, the budget will not stretch far enough. If something cheaper must be chosen even though it does not reach as many people, or work as well, you can: (a) see if the inventory suggests a way to cover part of the costs; and (b) argue objectively right across the communication model why it should be chosen. Sometimes miracles do happen, and money can be found if the case has been made convincingly.

Hold a meeting like the one we have outlined. Write down all the possible ideas for solving your communication problem from the different points of view that might be represented. Check through the communication model and the questions we suggest. Add any more that you think are pertinent. Then select the form for your project.

Step 7: Setting guidelines

When the form has been decided on, it is a good idea to write—simply and

clearly—the important points to follow in making the new message. Include the main ideas and how you will get them across. Put down the main materials to be used, and any limitations imposed by the technology you will use. Such guidelines make it easier to develop the project later. You can try them out first in the next step, the rough draft, and modify them if necessary. Then you can use them in drawing up the visual specifications called for in Step 11.

Draw up guidelines for your project.

MAKING THE MESSAGE

Step 8: The rough draft

It often helps to work out your project first in a rough draft. In this way you can explore the problems and opportunities of your chosen form. If it does not seem to do the job well, you can choose another form without wasting much time and effort.

The rough draft does not have to look pretty, but it should include all the important concepts you want to convey and some indication of how you will do so. You can save time by using some simple form close to the final one, so you will not have to translate your ideas later on. An outline or written summary is sufficient for a mostly written project, and sketches can be included if and when they are necessary. When words and pictures are both important, written roughs and sketches can be combined in various ways. Projects which are mainly visual can be planned completely or mostly with drawings. Storyboards are a familiar form that are useful in this way.

Make a quick rough draft of your project.

Step 9: Filling in the work plan to assign visual roles and responsibilities
If you are using a work plan or flow chart, you should fill it in and bring it up to date after you have made the decisions about the forms your project will take. Then everyone will know what he is responsible for and when different parts of his job should be finished. Within a project, of course, 'visual people' can have many different roles.

Editors probably head the visual units in most literacy projects, but a designer might be in charge of an exhibition, a photo series, a multi-media show, etc. If he is working on a book without pictures, a designer's job is mostly technical. He decides on the type to use and its arrangement on the pages—not always small matters. He also gets the book ready for reproduction, a job he usually does on other printed projects as well. He may be in charge of illustrations too. He may or may not have people working under him. His title may be art director, artist, layout artist, paste-up artist or production director.

Step 10: Making visual choices
Starting with the first draft, the 'visual people' and the 'word people' need to work together closely. If they can decide what will be done visually and what verbally, then they can save time, for they will not duplicate each others' efforts. When the rough draft has been approved, the artists and designers can then go on to decide where each visual should be placed, what it should do, and how it should be made, still checking closely with the other people involved in the project.

(*a*) *The central problem: translation.* Whatever his role, the visual artist or designer who wants to communicate visually must be a translator as well. For he must put his messages, as much as possible, into visual language his audience understands. This poses problems when the modern international style does not communicate well enough. The visual conventions people do

understand probably developed to express very different i[illegible] as from birth control, growing more food or factory safety. Using the people's traditional visual idiom to carry modernizing information may seem as hard as discussing nuclear physics in Sanskrit, or Old Norse. That is one reason why development communicators reach automatically for modern styles: the vocabulary is already there, even if people do not understand it. But what is the use of addressing people in visual language they do not understand?

Visual idioms, like verbal languages, have life. They can adapt and grow. Even if everything you need is not there—and it probably is not—you will have a better chance of getting through if you base your visuals on your visual inventory. You may also help to forge a link of visual meaning between past and future.

Two earlier parts of this chapter offer help in translating. The next section, which outlines the communication strengths and weaknesses of some graphic methods and their treatments, can help you decide how best to visualize the ideas you are dealing with. It also offers tips on using these ways to visualize effectively and discusses some important relationships between words and pictures in their joint job of communication. Later, *Making content visible* (Step 12) explains how to construct visuals that communicate clearly, in ways that are familiar to the people you want to reach.

Let us take an example in order to show how the process of translation works. Suppose you have checked through your visual inventory, your goal and the realities of time, staff, money, etc. You are making a primer, and you are thinking of illustrating it with drawings based on a style used for wall paintings. How do you translate your message in the primer into the style of the wall painting?

Obviously, you will be changing some aspects of that or any other style, no matter what you do. The subject will, of course, be different. The scale will have to be adapted from large to small. Colours will probably differ too, due to the production and reproduction processes and inks. In fact, colour may drop out entirely if you intend to use only black and white. The relationship between audience and communication will change too. We handle a book, but we can only look at a wall painting from a distance, and from a certain set place.

Your visual inventory can help you to decide whether and how these changes will affect the way this style communicates, and even if it is appropriate for the new message. Then you can think about whether the communication strengths of this style make it a good choice for the kinds of information you want to convey. The section on strengths and weaknesses can help. Finally comes the job of making your pictures in a similar style.

We will take up visual syntax in more detail under the section entitled *Making content visible* (step 12), but now, here are three key points to consider illustrated below:

1. *Look at the visual syntax. Notice how lines, shapes and colours are put together.*
2. *See how objects are related to each other and to the background.*
3. *See how the over-all composition is organized. Is it, for example, symmetrical or asymmetrical?*

Translation must, of course, be solidly based on knowledge of the language. But any good translator will tell you there is more to it than that. A good translation also needs intuition, imagination, a touch of the poet or artist. Mark Twain said the right word is the difference between a lightning bug and lightning. So is the right visual.

If you are not an artist, do not worry. At least you are using understandable visual language. In any case, no one can tell you how to make this vital leap of the imagination. It is common, however, to all good artists and designers. So instead of worrying that methodical research and planning will kill off your creativity, use it as a foundation to soar from. As you leap into making new messages, here are some ideas we hope will act as a springboard.

Communication for development has a serious purpose, but everything you do does not have to look serious. We have seen far too many boring, well-intentioned, ponderous messages turned out in places where the local visual style is full of wit and playfulness. Remember that interesting people can be part of the challenge, and let the culture help you meet it. Look for visual themes your audience likes and decide which ones can be used appropriately. What, for instance, are their favourite forms and colours, drawing and painting treatments, festival decorations, styles for toys? How could you use traditional textile or other decorations to enhance a book or a poster? What other sources can you draw on to make your communications appealing?

When the budget allows for multi-media (even drawings accompanied by discs on a record player), how can you capture the excitement of traditional puppet shows, dances, shadow plays or pantomimes? When you make exhibits, models or mock-ups, how can you apply the culture's rules for arranging space? Can you adapt the rules for making three-dimensional objects—such as buildings, gardens and sculpture—to your exhibitions? And when the quantity of communications needed is small, could you use traditional production processes? They may seem less alien to some audiences: and making a few things by hand can be cheaper than making them by machine.

From your visual inventory, pick out some ideas you might use to make your messages appeal to your audience.

(b) Strengths and weaknesses of some visualizing methods and treatments.

Fruit: a realistic photograph

A realistic drawing

Working with the culture's visual language is only a part of the artist's job. He also has to find the best way to convey his information visually. There are more ways to do this, and more jobs that visuals can do, than many people realize. And using visuals well is doubly important when people cannot read, or do not read well. As we have said, visual material can even help people learn to read. The possible choices are many, and the points to consider range far beyond the simple question: 'Shall I use drawings or photographs?'

Here are some examples of what drawings and photographs and other graphic techniques can do: (a) in literacy texts drawings can create settings in which just a few words convey a great deal; (b) cartoons and comic strips do this, but the pictures and situations can be informative and do not always have to be funny; (c) other kinds of drawings can show how blood flows through the body, or plants take up food; (d) still other visuals create moods, from poetic to humorous; (e) different kinds of visuals not only add different kinds of information to text but can themselves carry the main information; (f) with or without words, colours and shapes such as lines and arrows can lead you, for example, through a hospital to a particular clinic or show you how to get from one part of the city to another on public transport—they can show you how to operate a machine while you are standing at the machine!

To do these jobs well, you need the right visuals. Different kinds succeed in communicating different kinds of information, and they should be made so that they perform effectively. Whenever possible, visual choices should stem from the visual inventory, but they should also be chosen with an eye to the communication jobs they do best. In the following checklists, we have summarized the communication strengths and weaknesses of some of the main graphic methods and treatments. You have met some of the information before, but now is a good time to have it presented in a complete form.

CHECKLIST III

REALISTIC TREATMENTS

Drawing, painting, sculpture, photography, etc.

1. Strong points

(a) They give precise descriptions using shapes, textures and compositions which resemble the original.
(b) Give precise information by reproducing the look of body language, facial expressions and characteristics, dress, etc.
(c) Show spatial relationships well: in *photography* through the action of lens and film; in *sculpture and models* through three-dimensional representation; in *drawing and painting* through perspective, foreshortening, shading, mechanical drawing systems, etc.

2. Weak points

(a) May not be native to the culture.
(b) Require special skills and sometimes tools, since badly made or poorly reproduced visuals do not 'get through'.
(c) Lack selectivity: the intended message can become lost among conflicting detail. To control this problem: select and compose carefully, especially photographs; use words to point out the important information; control syntax (see Steps 11 and 12). The following techniques can be used to control syntax: in *photography*, during development unwanted details can be removed by (*i*) chemicals, (*ii*) varying exposure time when printing and (*iii*) changing the quality of the paper; after development the picture can be (*i*) cropped (unwanted parts are cut off) or (*ii*) airbrushed or have parts removed by other hand techniques; in *handgraphics* (drawing, painting and sculpture) lines, shapes and shading can be controlled to emphasize certain points.

3. Comments

(a) Realistic treatments are probably used too often without thought for their special strengths and weaknesses.
(b) Their advantage is to give precise information about how things look.
(c) When using these methods, give special attention to: (*i*) how well the audience understands them; (*ii*) focusing on the important information; and (*iii*) the quality of production and reproduction.
(d) Think about using realistic techniques to convey abstract ideas.
(e) Also think about your own culture's conventions to represent reality.

Take note of the conventions used to represent realistically among the people you want to reach.

Improving photographs. Before: this is a good general view, but it does not focus on one particular subject.

After: by cropping and enlarging, one part has been selected for emphasis.

Improving realistic drawings. Before: viewing angle does not make the important action clear. Details are confusing and contrast is weak.

After: new composition, stronger contrast, and details all focus on the important activity.

A photograph of a well

Orthographic-non-perspective drawing of the same well

CHECKLIST IV

ORTHOGRAPHIC VIEWS

Mechanical or freehand two-dimensional drawings, sometimes painting, without perspective.

1. Strong points

(a) Traditional to many cultures; often made with special conventions and used for certain subjects only. Traditional orthographic styles are often easy to imitate.
(b) Modern mechanically drawn styles are extremely accurate, and useful for: *patterns*, showing exact sizes of pieces; *working drawings*, showing scale of pieces and how they fit together.
(c) Advantages of some orthographic styles, both modern and traditional: *oblique styles* show three sides of a figure without distorting or foreshortening; *isometric style* shows all sides, equally foreshortened—good for drawing objects accurately to scale.

2. Weak points

(a) May confuse people used to perspective. (Check the inventory.)
(b) Traditional and Western mechanical styles may differ. If one is understood, the other may not be. (Again, check the inventory.)
(c) Mechanical orthographic drawing requires special knowledge, skills and tools.

3. Comments

(a) Where orthographic drawing is traditional, it can probably be used more frequently.
(b) Do not confuse freehand traditional styles with Western mechanical methods. However, the latter can be useful if the inventory (or spot testing), that is testing small samples in different areas, shows they will be understood.
(c) Traditionally, this method is often used with decorative backgrounds of geometric and other abstract patterns. It can also be mixed with other drawing methods. Consider using similar devices where appropriate.
(d) Use traditional orthographic drawing only for appropriate subjects.

Do the people you want to reach use orthographic styles—traditional or modern? If so, for what subjects? How could you use them to visualize information in your project?

CHECKLIST V

PICTOGRAPHS

Simplified, usually two-dimensional, drawings.

1. Strong points
(a) Quickly and easily recognized.
(b) Define classes of things by their basic shapes.
(c) Do not require much skill to make and are easily reproduced.
(d) Useful for: *signs*: highway, directional, etc.; indicating *classes of things* in statistical charts and diagrams.
(e) Traditional in many cultures.

2. Weak points
(a) Cannot individualize, or show particular examples.
(b) Do not usually convey subtleties of mood or feeling.
(c) Proportions must be derived correctly to be understood. (Check inventory for culture's conventions.)

3. Comments
(a) Traditional in many cultures.
(b) Can probably be used more frequently: to carry *information about classes of things*; when *quick recognition* is important; wherever the *culture uses them.*
(c) A practical choice—cheap, easily made and adaptable to many media.
(d) Make sure pictographs are made according to the culture's conventions.

Do you have pictographs in your visual inventory? Modern or traditional? If they communicate successfully, decide what information in your project they could carry, and what the rules are for making them.

CHECKLIST VI

ABSTRACTIONS

Distortions to achieve some effect.

1. Strong points.
(a) Can produce highly charged visual statements which: *convey cultural ideas*; *make social comments, including satire*; *state personal feelings and reactions.*

2. Weak points
(a) May not be good for carrying neutral information.
(b) Require intimate knowledge of culture's conventions.
(c) To make them often requires subtle techniques which are not easy to teach or explain.

3. Comments
(a) Used knowingly (and perhaps sparingly) can: *convey cultural ideals*, perhaps attached to new information; *comment* on a situation; *arouse interest* in a subject.
(b) Pay particular attention to the culture's understanding of an abstract style. It may be considered the normal, neutral way to represent things.
(c) Think about using abstractions to add overtones to a realistic representation.

Does your culture use abstractions? What is their purpose, or purposes, and what are the rules for making them? How might you use them in your project?

CHECKLIST VII

DIAGRAMS

Visual arrangements that show relationship among parts.

1. Strong points
(a) Give much information, clearly, in a small space.
(b) Leave out unimportant details and concentrate on essential relationships.
(c) Do not require a high degree of drawing skill and are easily reproduced.

2. Weak points

(a) Often require the understanding of special codes. (Check the visual inventory.)

(b) Require sophisticated sense for organizing information visually—unless traditional forms are followed.

3. Comments

(a) Some kinds of diagrams are probably traditional in most cultures. (Check the inventory.)

(b) They can be cheap, easy, useful ways to show relationships and are easily reproduced.

(c) They can probably be used much more than they are at present.

(d) Diagrams for general audiences should rely on easily understood arrangements and symbols. Suggestions: *visual devices* to make ideas clear, such as: (*i*) arrows to show a process or time sequence; (*ii*) circling or underlining parts for emphasis; using *easily understood pictographs* as symbols.

(e) Numbers, written words and special codes should be used only for audiences that are familiar with them.

(f) Appropriate traditional patterns and decorations can add visual delight. Diagrams do not have to be dull.

What kinds of diagrams do the people you want to reach understand? How might you use some, perhaps similar, in your project?

CHECKLIST VIII

VISUAL ASPECTS OF WRITTEN AND PRINTED WORDS

Words ... Remarkable, flexible ... Not bound by visual images ... Callers-up of imaginary worlds, abstract or concrete, inner or outer ... Namers, describers, explainers, persuaders ... No wonder people put so much time and effort into learning to read them!

Along with their linguistic magic, written and printed words have a visual dimension. That often neglected aspect is our main concern here: first the visual messages of words; then some ways they can combine with visuals to make messages.

1. The look of words: typography and calligraphy (printed and written words)

(a) Size, shape, lightness, boldness, etc., of written and printed words affect: *feeling* conveyed by the message; *legibility*.

(b) Layout: the visual shapes in which text is printed also affect legibility and meaning.

2. Relationships of words, pictures and ideas: visuals and text

(a) When words carry the main message, pictures can: *call attention* to some part (this is probably the most common Western relationship of words and text); *explain* some concept (example: in literacy texts, the known visual code explains the unknown verbal code.); *contribute* to a mood; *give more information* about ideas in the text (example: the diagram of a skeleton in an anatomy text).

(b) When pictures carry the main message, words can: *emphasize* some part of the visual idea; *explain* the importance of the visual idea; *contribute* to a mood; *add information* to the visual idea; *be understood* in the context of the picture.

Write down some ways you could use these relationships in your own project, or another. (If your own project does not combine visuals and words in the ways we are exploring here, choose some piece of literacy or other development materials and make notes about how you might use these techniques effectively in redesigning it.)

3. Relationship of words, pictures and ideas: visual rhetoric

Pictures and words also express ideas through closer relationships. Sometimes either one alone could convey the idea, but the two together make the message clearer and more appealing—especially to people who cannot read well. In our own culture it is hard to use pictures alone in the ways we list here. Perhaps that is not true in yours, and perhaps you have other visual rhetorical devices.

(a) One-to-one: word and picture 'say' the same. Very common in beginning literacy texts. (Example: the word *bird* and a picture of a bird appear together.)

Example: the word ***bird,*** *with a drawing of a bird*

(b) Pictured part or parts stand for the whole. (Example: bread, or bread, vegetables and meat, stand for food.)

Example: a photograph of a vegetable also stands for food

Example: a drawing of a vegetable stands for food

(c) A common substance stands for many things. (Example: several trees represent products made of wood, such as furniture, lumber, books, etc.)

Examples: several trees can suggest related subjects, such as furniture, lumber, books, etc., if the relationship is made clear in the text

In the same way, water or the ocean can indicate many related subjects, such as fishing, transportation, swimming, etc.

(d) A detail identifies. (Example: a typical hat indicates that a woman is from the Altiplano of Bolivia or Peru.)

Examples: a hat indicates that a woman is from the Altiplano of Bolivia or Peru

This headgear identifies a North Indian bridegroom

(e) A picture is a metaphor: it suggests a quality, or implies comparison.

Example: an aeroplane flies like a bird

Complex abstract ideas are conveyed visually, as in national and religious symbols. Examples:

National emblem of Mexico

Hindu religious symbol

American Uncle Sam mailbox

Does your audience use and enjoy visual rhetoric? Do the literacy or development materials you know make use of them? Decide whether you can use visual rhetorical devices in your project or some other, and which ones might be appropriate.

4. Limitations of written words as communication

(a) Require literacy at an appropriate level.
(b) Must usually be read in a certain order.
(c) Often are not as quickly understood as many kinds of non-verbal visual communication.

5. Comments

(a) Words are, of course, an excellent way to convey meaning. However, they may be depended on alone for people who do not read easily or well, giving them too much to understand at too high a level.
(b) When using visuals with text, decide how both can best be used together in order to communicate.
(c) Look for ways in which your audience's favourite rhetorical visual devices can enrich your whole communication, with or without words.
(d) Remember in using visual rhetoric that the style and treatment chosen must communicate the right information.
(e) Remember that typography, calligraphy and layout are all part of the message that printed words communicate, with or without accompanying visuals.

Try to plan some visuals in relation to text so that the message will get through to people who cannot read very well. Use your own project or redesign some previous one.

Choose a type face (style of printed letters) for your message that you think is appropriate.

Step 11: Writing visual specifications

The next step is to make up a list of detailed specifications (specs) or instructions. These sum up all the visual decisions made so far. They also tell you, very specifically, how to make your final project embody those decisions, and they set a time schedule. If what you make is not going to be reproduced by a machine, the 'specs' say what to make and how, so that all the pieces fit together properly. If it is going to be reproduced by a machine, they also specify ways to make the parts by the technical means available. Even for a simple project, such a list—which can be simple—is important for making sure everything will be—and can be—made.

If you are working with print, a key job at this stage is to decide on type faces and sizes for all written parts of your layouts, using information about the available printing facilities gathered in Step 4. You will also be deciding on visualizing methods and treatments to use (Step 10b) for each visual, and the techniques for making them: washes, tones, colours, high-contrast photography, etc.

The artist, art director or visual designer usually writes these visual specifications. Other information he may use includes the work plan, from which he sets deadlines. He may want to check as well with the original guidelines (Step 7), and even with the goal, set in the beginning. When all the parts of the project have been made, he can use the 'specs' as the basis for writing his instructions to the printer, although he may want to add to them, or even change some details.

SAMPLE VISUAL SPECIFICATIONS:

PRINT

1. Title of project ....
2. Form: Book...............pamphlet...............poster...............other ....
3. Method of printing: offset (litho)..............letterpress...............Gravure............ ..silk screen...............other ....
4. Number to be printed...............
5. Paper: Trimmed size....................Weight: text...............Cover...............
6. Inks: Supplier............................colour system............................one colour ....two colours...................., ...full colour...............other...............
7. Typography: typesetting method ....
type face or faces ....
size and weight of type faces: display (headlines)..
text.............................other..
8. Visuals: Number of photographs...............number of handgraphics...............special instructions, photographs (list separately if necessary)...
special instructions, handgraphics (list each separately if needed) ....
9. 'Camera-ready' preparation for plate-making: person responsible.............................number and types of overlays.............................marking instructions for visuals and typography (colour, screening, reversing, etc.) ....
10. Proofs: galley proofs: number in the series................
number needed of each...............
reproduction quality proofs...............number needed...............
photo and art proofs: types (brown prints, etc.)...............
number needed...............
11. Estimated cost of project....................cost per item....................
12. Billing method: procedure.......... ....dates ....
13. Distribution: storage..............................shipping method..............................total cost of distribution....................cost per unit....................delivery dates.............................
14. Time schedule for project: Start................key deadlines....................... complete.......................

15. Names and addresses of all key people in the project
    Planners and designers ....
    Printers ....
    Typesetters ....
    Paper suppliers ....
    Artists and photographers ....
    Distributors ....
    Others ....

How much of this information is relevant to your project, or some previous printed one? What other details should you know? Make notes of them. If you feel it is appropriate, fill out print specifications for your own project.

SAMPLE VISUAL SPECIFICATIONS:

TRADITIONAL MEDIA

1. Title of project ....
2. Medium: two-dimensional (painting, etc.) ....
   three-dimensional (sculpture, etc.) ....
   multi-media (drama, dance, puppet show, etc.) ....
3. Setting: location.................... size, etc....................environment: lighting....................energy source....................special requirements ....
4. Number of communications to be made..............
5. Materials ....
   durability requirements ....
   special instructions for working with ....
6. Tools, supplies and equipment ....
7. Participating personnel ....
8. Special instructions about styles, treatments, techniques ....
   ....
9. Distribution: placement.................... method of placing....................Removal method and date....................storage....................personnel needed ....
10. Costs: total....................per item....................per person reached....................
11. Time schedule: start....................key deadlines....................complete....................
12. Names and addresses of participating people and organizations

How much of this information is relevant to making a communication project in some traditional medium in your area? What more would you need to know? If appropriate, fill out the specifications for your own project.

Step 12: Making content visible
When you put visual messages together, you are visualizing meaning. Bear in mind how your audience refers to ideas with images, colours, shapes materials and so forth (see Morris's 'semantic dimension'). Try to plan these elements so that they have the right effect, or 'pragmatic dimension'. You will be doing this by using visual syntax, and so we will look at that dimension now in detail, from the smallest element through to organizing a page, a publication or a series.

As we have shown, culture influences visual communication in many ways, and different visual languages, just like verbal ones, may make various visual statements. Nevertheless, some ways to look at and work with visual syntax can help. In time, we may find they are part of that deeper similarity that linguists tell us verbal languages share, which is based on the similarity of the human brain. At this stage, nobody knows for sure.

Most how-to-do-it books on drawing, photography and layout do not discuss *why* we should do what they tell us to. Many also go into more technical detail than we can here. Some of the most useful are listed in the bibliography. Even within the same culture, knowing this kind of information is crucial to making visuals communicate correctly. When the ideas were developed in a far-away place, it is even more important to know the reasoning behind them. All too often, people follow such books uncritically —and they end up designing in an alien idiom.

The ideas you will meet here, like those in the other books, were developed in Europe and the United States. Up to now, very little thinking pertinent to visual syntax has been done anywhere else. We have picked out what we think you will find most useful and added some ideas of our own. The latter are based on our experience in the United States of America. Deciding how and whether they apply to you, your situation and your culture is the important next step, and it is up to you.

This section is already a complicated mixture of words and pictures. We have not added to the complexity by putting in exercises every step of the

way. If your main concern is planning and evaluating visuals, we hope you will think about how each point applies to you. To make matters more specific, you may want to relate them to previously published materials. If you are actually making visuals, you may want to do more. As you go along, try visualizing your own project and examples of previous publications, or both, to illustrate the various points. Perhaps you will not be able to use all the materials for publication later, but you will learn more through having prepared them. In the process, you will develop your own unique set of visual design reference materials. Perhaps they will be the first based on your own culture.

Everything we see is arranged in some way. When this arrangement communicates information, it is visual syntax. If we understand something from still photographs, sculpture, diagrams, costumes, toys, smoke, fireworks—the familiar endless list—they all have visual syntax. And when you control visual syntax, to a large extent you control how people understand your messages.

The smallest elements of visual syntax are points and lines. They can be made, as they are in a drawing or painting, or they can be only perceived, as in a photograph or the environment itself.

How visual syntax develops

1. A point . . .
2. . . . becomes a line.
3. Lines have various directions and lengths.

4. They can be combined.

5. From these combinations shapes emerge and the semantic dimension begins. Lines form recognizable geometric figures.

Lines form shapes representing a concept or object.

6. Shapes can be more or less realistic; they can be simplified or abstracted. All these variations affect meaning.

They can be distorted.

7. Information can also be conveyed within shapes. Shading, texture, contrast, colour and patterning are some of the graphic techniques used. The choice depends on what you want to get across.

Information added through various graphic techniques.

8. Information can also be added—and the picture made harder or easier to understand—by relating a shape to its background: greater or lesser contrast, different textures, patterns, etc.

Black on white.

White on black.

White on grey.

With pattern and textures.

With a shadow.

With background setting.

9. Syntax can be used to express certain concepts visually
(a) *Scale:* often shown by placing a shape of a known size near one of unknown size. The human body, or some part of it, such as a head or hand, is often used in this way.

(b) *Dimensions*: indicated with shading, perspective, or one of the orthographic drawing systems.

(c) *Time*: described with words, numbers or pictures in an appropriate diagram.

(d) *Motion*: suggested by a series of still pictures, carefully chosen and drawn to show the process.

(e) *Change*, shown by drawings in a progression.

And there are still other ways that shapes can be related and changed.

(f) *Mirroring.*

(g) *Reversing.*

(h) *Turning.*

(i) *Crossing or overlapping.*

10. *Colour* can play a syntactical role as well. You can, for example, emphasize parts of a message by highlighting them, or using vivid colours. Other parts become less important if they are in shadow or weaker colours.

11. General *visual organization* leads the eye through a visual communication. In large part it establishes the order in which we 'read' a visual message. It is also important in setting the relative importance of the different parts of that message. Such organization even influences the meaning derived from the way parts are related. In fact, the way a visual message is put together has a lot to do with what and how well it communicates—and to whom. It is such an important part of visual design that we will look at it further, from several perspectives.

A. Some people read from left to right, down the page

B. Others read from right to left

C. Strong directional devices can direct the eye

D. Shapes can also direct the eye

Unless there is some more pressing consideration, visual messages ought generally to 'read' in the same direction as the audience's written language, from left to right, or right to left, or top to bottom, etc. Although non-verbal messages can be comprehended more flexibly than words, people get used to taking in visual messages in set ways. Literate people already read in one direction, and illiterates hardly need to learn to read in two at once!

Many people design visual messages automatically to suit their own patterns of comprehension, without thinking that their audience may have another. Perhaps, for example, you have seen films where most of the action on the screen goes from top left to bottom right, like a European language written on a page. We have seen some like that, made expressly for people whose language is read in a different direction.

You can get other ideas to help you design effectively from scientific study of perception, and still more from your own culture itself. First, let us borrow from the scientists.

Tips from Gestalt psychology. Many visual designers in Europe and the United States think the studies of the Gestalt psychologists in visual perception provide a basis for visual grammar or syntax. Some evidence, however, suggests that some of the principles may not be as universal as has been assumed. We have chosen some that we think are most useful, but keep checking them with your visual inventory.

The way we perceive visual information, according to this school of scientists, is based on *discrimination*. Before we can receive visual information, we must be able to discriminate the shapes that carry it from their background.

This fundamental distinction is called *figure-ground.* The figure, of course, is the shape. The ground is what it is seen against, or discriminated from.

We see figures even when they are not, in fact, complete. For our eyes tend to connect points, lines and colour cues to make shapes. This tendency is called *closure.*

What makes us recognize shapes or, in Morris's terms, gives them their semantic dimension? The Gestaltists say there are two principles. One is *familiarity.* That is, it is the shape of something we already know (made, of course, in a visual syntax we understand).

When shapes are not familiar, we rely on *similarity*, or relate them to shapes we do know. We look at clouds, for instance, and say we can see the shape of a tree, or a dog, or a tractor-trailer. We are searching for similarity.

Even these basic concepts suggest several principles for visual designers. For instance, it is important to use enough contrast between figure and ground to make the shapes of the main information clear. These shapes do not always have to be complete—although, for clarity, they should be strongly suggested. Use familiar shapes, and you can expect them to communicate semantic meaning. When shapes are not familiar, realize that people will tend to think in terms of shapes they do know. (This may be one reason why visual metaphors are so popular in many cultures.)

The Gestaltists have also studied many more complex visual relationships. Here are some of their findings that may help you control visual syntax:

1. The *size of shapes*, both in relation to each other and in relation to the viewer, influences how they are perceived. For instance, people see larger shapes first. Also, the larger of two shapes tends to seem more important. Thus, you can use the relative size of shapes to control both the order in which your audience 'reads' a visual message and the relative importance of visual information in a design.

2. The *space between shapes* influences the way they are perceived. Isolating a shape can make it seem more important. Crowding other shapes near it can make it seem less important.

3. The *proportion of figure to ground* can make shapes seem large when there is little ground; or small when there is much ground.

4. *Proximity*: grouping items close to each other relates them within the message. They may be seen as similar or contrasting.

5. *Redundance*: when details in a picture support the main idea, they are called redundant, but they reinforce the message to make it clearer. Details that are not redundant only confuse the viewer. Often in the debate between drawings and photographs, the choice itself is not as important as how well this matter of redundance is attended to. In photos, irrelevant details frequently get out of hand. Often the opposite problem happens with drawings: they do not include enough reinforcement of the main message.

Another important way to make visuals communicate clearly is also shared by drawings and photographs. Pictographs and high-contrast photographs both drop out details and emphasize a strong main shape. As always, the choice depends on what you want to communicate and what your audience understands.

This photograph uses redundant details to show new construction. It also describes the setting and through their clothing, gives the identity of the workers.

This drawing is also redundant. By dropping out details, it focuses more on the main subject. However, it does not say as much about the setting or the workers, and it lacks the feeling of reality of a photograph.

Cultural aspects of visual organization. There seem to be strong underlying principles of visual design in many cultures. These principles show up in many forms—in fabric designs, building and town plans, pictures, and in many other places. Both your visual designs and the over-all plan, or layout, of visual messages should be made according to your audience's preferred principles of visual organization.

In many cultures, visual messages are organized symmetrically. That is, the parts mirror, or reflect, each other on either side of an imaginary line drawn through the middle. Sometimes this line, or central axis, runs from top to bottom; sometimes it goes from side to side; sometimes two axes go

Symmetry: early American folk art

Symmetry: Eskimo print

both ways. Many art forms and much of the architecture in Western Asia, parts of Africa and much of Europe before modern times are built on symmetry. You do not have to look long at a Chinese or Japanese painting, though, to see that it is put together asymmetrically.

Structural analyses of some symmetrical arrangements

Central axis

Central axis, more complex composition

Two axes

Diagonal axis

At first glance, asymmetrical compositions may seem random. However, if they are successful, they achieve visual balance, harmony and tension through the way different sizes and shapes are related within the whole space. Working asymmetrically can require more sensitivity to shapes and space than the more formal, easily applied, principle of symmetry. Designing this way can be more flexible too. If your audience is used to asymmetry, you can use it to call attention to the most important parts of your message through layout.

A good way to arrange space asymmetrically is to add one visual item at a time. Think about the effect of each one on the whole. When the ancient Chinese added their seals to paintings, they did just this, and studied the composition a long time to find the right place. You, too, can be such a connoisseur. Or if you prefer, you can think in terms of modern Western mobiles, those hanging sculptures that balance sizes and shapes asymmetrically. In working two-dimensionally, you can balance psychological weight in the same way that they balance physical weight.

Examples of asymmetry

19th Century American drawing

Indian house painting

African metal panel (Yoruba)

Japanese screen

An asymmetrical structure can be used in endless ways—from tightly controlled to open compositions. Here are a few examples:

A good way to divide space is to establish a set of proportions for all the shapes within a composition or series of compositions. Doing this helps to co-ordinate the parts. This technique is particularly useful for relating compositions in a series

Composition based on a square, which can be subdivided. This arrangement can be symmetrical or asymmetrical.

An asymmetrical layout using this composition

Space divided into one-third and two-thirds, horizontally and vertically. This always produces an asymmetrical arrangement.

Layout based on this ratio

Getting it together: layout. The term 'layout' usually means a visual plan for a printed page or series of pages. Typically, a layout combines several pieces, such as text, headlines, drawings, photographs, diagrams, etc. Many people do not realize that when they arrange these pieces they are really controlling information. A layout guides the viewer's eye through the page and determines how he will 'read' it. Everything we said about the over-all design of a visual applies to the page it is placed on as well. To help your audience 'get the message' easily, try to make your layouts express the relationships between the parts simply, clearly and in arrangements they are used to.

Grid systems and design manuals. Modern graphic designers often build their layouts on one single, basic measurement in order to establish clarity and order. The idea is not new. Hindu classical sculpture is based on the *tala*, or length and width of the middle finger. Ancient Egyptians used another unit. There may be other basic units, and some of them could even be in use today. If your audience seems to use one, you would do well to think about adopting it.

When they design for print reproduction, modern designers usually start with the size of one letter, made in a type face to be used in the body of the text. The text is then composed to different line lengths to various depths in multiples of this unit making larger blocks of type with different shapes. Then, when similar kinds of information are used, they are put into blocks of the same shape.

You can make a similar grid system with graph paper by drawing different shapes, all based on the smallest size square. That square will probably not be the same size as a small letter, or some traditional unit, but it will provide some uniformity.

More and more companies, agencies and organizations are extending this principle further by creating design manuals. These contain basic layouts derived from grid systems to be used with different kinds of their printed materials, or materials published in a series. The manuals set standard units of different sizes, and specify the kind and size of type to use with each one. Then these design components identify similar information wherever it is used. In addition, some manuals establish a symbol that becomes a kind of visual metaphor for the organization, and sometimes a set of other identifying symbols as well.

Designing with a manual is much faster than making each layout separately, for many of the design decisions have already been made. A manual can co-ordinate many different printed materials, such as stationery, invoices, pamphlets, advertising, packaging, exhibitions,

Steps in making a typographic grid plan

1. First, organize all the visual materials you will need—words, pictures, etc. Decide what size you will need for the copy text. Using a letter selected from this size, plus its leading, as the basic unit, draw an inked grid plan. Here is a detail of a unit grid.

2. This basic unit is then enlarged into modules for determining column widths, placement of art, and the margin system for the plan. Here is a small detail of a grid that shows a basic module.

3. The modules then carry various sizes of words and pictures. Here is a sample single page layout made on a unit grid plan.

4. Numerous variations are possible when you use a grid system. At the same time, many elements can be coordinated in a consistent manner. Grids are particularly helpful when producing many pages for pamphlets or books. Here are four pages showing variations in the use of a grid.

multi-media presentations, etc. It can also establish visual continuity for projects such as magazines and other publications in a series. If your group needs such visual co-ordination or continuity, think about setting up a design manual.

If your project is to be printed, think about whether a grid system and/or design manual would be appropriate. If it would and if you have time, set up such a uniform system, or part of one. Then lay out a page or series of pages.

Checking the visuals. It is important to keep your purpose in mind as you work. From time to time, check to make sure each drawing, photograph, etc., is doing the right job. When you are very close to your own work, someone else's view can be valuable. So occasionally ask another team member to look over what you are doing. On small projects, this can be done informally. Larger ones often have review and evaluation periods built in. Here are some questions to think about:

1. Have visual specifications (Step 11) been met?
2. Do the visuals show, simply and clearly, the content that was planned for them?
3. Is the method and treatment appropriate: (a) for the content? (b) to the audience?
4. Are the visuals made well?

Step 13: Production—from preparation to finished product

The materials you have made must now be completed. If they are to be reproduced, make them ready for that process. The details to take care of will vary with different media and production processes, as well as with your own situation. Here, though, are a few steps you should probably attend to:

Final review: Go over all the visual materials. Make sure everything is complete. Check again to see that each piece fits the visual specifications, and that nothing has been left out.

Finished art: Put every visual into its final state. If it is not going to be reproduced, complete it. Then put all the pieces together and put the finished project in place. If it is to be reproduced, get it ready for the first step in the process. Needless to say, this means knowing the requirements of the process. Drawings, for instance, should be ready for the photocopy machine, if they are to be reproduced in that way. Written text must be

typed or otherwise made very legible, so that the typesetter can deal with it. And so forth.

Reproduction instructions. If the rest of the work will be done by technicians, you need to write some instructions for them. Be sure to use terms that fit the technical process they will use, and language they understand. And if a system for making these directions already exists—a printer's system for marking copy for example—be sure to use it. There will be less room for misunderstanding.

Much of the information will come from the visual specifications (Step 11), but you may want to add to them, or change some, or even make some final changes in some of the visual material. Perhaps, for example, a photograph ought to be printed lighter, or darker, or an illustration should be reversed. You will also add instructions about the typography at this stage. In addition to type size and face (already specified), decide on exact column width and spacing between the lines ('leading') to make the text fit the space allotted to it in the layout. Put all these directions as close as you can to the piece of the project they pertain to.

Print production. The accompanying box gives a brief description of how text and visual materials are converted into print. It should help you to work with a printer, following the procedures he uses. You can find more detail about the printing process in books on printing, and on layout design. Some are listed in the bibliography.

CONVERTING A LAYOUT TO PRINT: A TYPICAL SEQUENCE

1. Make a final, precise layout. It should indicate accurately where every item should be placed on the page, but the visuals and copy do not have to be put within the spaces.

2. Prepare the visual and verbal material to fit the layout.

Visuals: drawings should be in inked lines or tones; (b) all photographs should be in a form that can be reproduced by your chosen method—if in doubt, check with the printer; (c) scale each item to fit the layout, and indicate the finished size; (d) attach specific directions to the printer about any special reproduction techniques to use, such as screens, halftones, etc.

Verbal material: fit the copy to the space allotted in the layout. Specify beside each block or line the type size and face, column width, and 'leading' to be used between lines.

3. Check the proofs. At several stages of the printing process, you should receive proofs that show what has been done. Their kind and number depend on the process being used (and have been agreed upon in Step 11). Usually text and visuals are first reproduced separately and later placed together; usually there are more proofs of type than of illustrations. Go over all proofs carefully. Mark errors according to the system furnished by the printer, so they can be corrected before the next step.

4. Prepare the final form for printing. The way this is done depends on the printing process used and how the printing plate will be made, so be sure to check with the printer.

Camera-ready. Some of the newer offset and silk screen methods use photographic film up to the final stage of platemaking. For such a process:

(a) Using camera-ready reproduction proofs, paste all type and all visuals that can be reproduced in line (i.e. do not use shading) into position accurately on a 'mechanical', or key-line plate. This will then be photographed, and a printing plate made from the film.

(b) Do not paste in photographs or drawings which include tones, for 'screens' must still be made (by the printer) to reproduce the tones. Instead, indicate their size, shape and position exactly on the mechanical, key them to it, and attach them. The printer may then make a 'brown print', or proof, showing how everything fits together. If necessary, you can still make corrections before the final printing.

Hot metal. In many older kinds of letterpress, and those used in smaller presses and gravure, printing plates are made by locking the elements together mechanically. These 'forms' can then be photographed or cast in metal to make the final plate. If your project is going to be printed by such a process, you do not have to make mechanicals. The printer puts together each page according to your layout. So just make sure everything that goes into each layout—and the layout itself—is accurate and free of error.

If you will be doing this job, prepare your own project or a few pages of some other for printing. If it is to be used, carry it through all the stages of printing, if at all possible.

FOLLOWING THROUGH

Step 14: Making a final check

When a project is finished, always check it over. Look over visual objects made in small numbers carefully. You can also preview performances, and view wall paintings, etc., on site. When large quantities have been made, as in print, you cannot go over every item, but you can check some of them. Make sure that bindings and folding have been done correctly.

If you have made some project, check it over.

DISTRIBUTION AND FEEDBACK

Step 15: Distribution

Now it is time to put the distribution plan into action, as established in Step 6. Make sure that your material is getting through to the right people.

Step 16: Assessing response and evaluating feedback

We hope this monograph has helped you design and make materials that get the right response from the right people. If what you do is inventive, creative, beautiful, inexpensive, and so forth, as well, we are glad—just so long as it is not like the lovely posters that the literacy teacher in Chapter I thought were only decorations! If you have collected a visual inventory and used it in the process we have outlined, we do not think that will happen. Nevertheless, you need to know how well you succeeded. Then you can build on your successes and avoid repeating mistakes. And so you need feedback.

You can use several of the techniques from Chapter II to get it. You can, for example, watch how people react to, or use, your project. You can also talk to them and find out what your project, or some part of it, means to them, how they feel about it, what they will do because of it, etc. Some projects even have ways to respond built in. Radio and television development clubs, for example, often ask members for reports. Maybe you set up some such way to get feedback when you decided what the project should accomplish in Step 7.

Valuable as it is, such uncontrolled feedback does not tell you how representative the responses are. Often only the people who like your effort bother to let you know. Also, if you ask people what they think, they may tell you what they think you want to hear! It is much better to find some objective, controlled way to evaluate response.

What you can do depends, of course, on many circumstances that cannot be foreseen. However, we strongly recommend (once more!) using an evaluation method from the monograph on the subject in this series, or from some expert you consulted during your research. This is most successful if a way to evaluate was built into the project from the beginning; sometimes doing so is not hard. A series of lessons, for example, can include exercises that show how well people have learned them. (You may have to test later, though, to find out how much they retain.) But even when you have to do something extra, it is cheaper to evaluate your materials than to spend money making those that do not really work.

Whatever evaluation method you use, try to separate the visuals from the rest of the message at some stage. Many ways to evaluate educational materials fail to do this, which means that there is no way to find out for sure how well different components within the message performed.

Maybe you cannot test every drawing and photograph. Then try to pick out the most important and representative graphic methods and treatments (if your project was printed) and some of the most important jobs the visuals were meant to do (decided in Step 10). You may want to classify these visual functions to make them easier to work with. Here are some suggested categories: informing or giving information; describing; creating a mood; giving directions (telling how to do something, or go somewhere, for example); persuading; teaching or providing practice for a skill.

Sometimes finding an objective way to assess how well visuals did their jobs is not hard. You can see easily, for example, if people learned to make a good letter 'o', or operate a machine correctly. You can also find out fairly easily if people learned information, such as using new sources of protein for example. If the visual job is less definite (though still important), such as creating a mood, you may need more ingenuity.

And how can you find out if the responses you evaluate are typical? The easiest way, of course, is to make the visual evaluation part of a larger scheme that takes the problem into account. If your project is small, you can go through all the responses. The field worker we introduced earlier did that, essentially, after each lesson. But if you have to evaluate a larger project on your own, you should try to do random sampling. The evaluation monograph in this series or a handbook on social science research can tell you much more about that than we can here. In essence, though,

random sampling tries to make sure that the responses you evaluate do *not* represent one small, atypical part of the responses. A very simple way to use this technique is to assign each response, or person you might meet, a number. Then look at, or talk to, every fifth, tenth, or hundredth, etc.

Decide on a way to evaluate your visuals as objectively (but simply) as you can. Can you base the evaluation on any kind of feedback already provided by the project?

Summary

And here is what we hope you will find:

Bibliographic references

Berlo, David K. *The process of communication*. New York, Holt, Rinehart & Winston, 1960.

This text considers communication as a process. It presents a simple, useful model of that process and discusses its parts.

Berndtson, Bjorn; Bogue, Donald J.; McVicker, George. *Relevant posters for family planning*. Chicago, University of Chicago Press, 1975.

This collection of family planning posters from around the world deals also with the principles of planning and making posters in general. One chapter tells how to pretest and revise a poster. Another identifies major obstacles to family planning and suggests ways to design posters to overcome them.

Dondis, Donis A. *A primer of visual literacy*. Cambridge, Mass., MIT Press, 1973.

One of the first and few texts about visual literacy, this book contains an extensive set of devices for analysing and composing pictorial elements. The emphasis is on the viewer developing his ability to interpret, rather than the maker's responsibility to communicate, and the visual conventions discussed may not be widely understood outside the context of the United States and Western Europe.

Duncan, Hugh D. *Symbols in society*. London, Oxford University Press, 1968.

The author identifies many kinds of symbols, visual and otherwise, and tells how they are used to communicate. The point of view is sociological and anthropological, and discussion is theoretical. The ideas can probably be applied in many cultures.

Fleming, Malcolm. 'Pictorial communication: an essay on its plight.' *Audio-Visual Communication Review*, no. X, July–August 1962, pp. 223–37.

A professor of audio-visual communication who has taught both United States' students and those from other cultures analyses why pictures are considered capable of carrying important information in the United States, but not necessarily elsewhere.

Frey, Harvey R., Minor, Ed. *Techniques for producing visual instructional media*. New York, McGraw-Hill, 1970.

This extensive collection of practical help tells and shows, with clear photographs and drawings, how to make visual aids in many media. Some processes can be followed easily, with little training, equipment or money; others are more elaborate. The book includes a comprehensive listing of other books and publications and sources for materials available in the United States.

Fuglesang, Andreas. *Applied communication in developing countries: ideas and observations*. Uppsala, Dag Hammarskjold Foundation, 1973.

Written after field work in Africa, this book describes clearly and simply some of the ways that communication works in society. It addresses specifically the developing world and includes many relevant photographs. However, some of the suggestions for creating visual aids do not seem to take the culture's existing visual literacy into account. The author recognizes that different peoples may understand moving images differently, but do not extend the same recognition to still photography.

Hall, E. T. *The silent language*. Garden City, New York, Doubleday, 1959.

An anthropologist discusses how 'body language' and other non-verbal forms of communication are interpreted differently by peoples in different cultures.

Hall, E. T. *The hidden dimension*. Garden City, New York, Doubleday, 1966.

Here Hall takes up the cultural variation in the meanings of space.

Lerner, Daniel; Schramm, Wilbur, eds. *Communication and change in the developing countries*. Honolulu, University Press of Hawaii, 1964. (An East-West Center book.)

This collection of papers from a conference on communication and change covers the relationship between the two from many perspectives. Several authors discuss whether and how modernization and Westernization must go together, with varying conclusions. Case studies from India, China and the Philippines are included.

Lockwood, Arthur. *Diagrams*. New York. Watson-Puptil, 1969.

This book shows how to use diagrams extensively and productively. It covers many kinds, and tells how to make them with different techniques in different media.

Morris, C. W. *Foundation of the theory of signs*. Chicago, University of Chicago Press, 1952.

This small volume by one of the developers of semiotic theory gives the essential points of that theory and shows how to use it in analysing signs of all kinds.

Muller, Josef, ed. *Film, television and society*. Bonn, German Foundation for International Development, 1971.

This collection of articles addresses various issues related to the developing countries and the mass media. Two particularly relevant essays: Martinsen, Paul. 'Comprehension of pictures and films by audiences in developing countries' (pp. 99–105)—the author calls for Europeans to give the Africans an effective helping hand in using visual media, including film and television, but warns that outsiders must first learn to see the African culture; and Sosak, K. 'Language of rhythm and pictures' (pp. 153–7). Here an African discusses the need for African film-makers to find their own cinematic language in order to make audio-visual communications more effective.

Polya, G. *How to solve it*. Garden City, New York, Doubleday, 1957.

This readable little book discusses the basic procedures for using the problem-solving process from which the third chapter of this monograph was developed. It divides this process into four phases: understanding the problem, devising a plan, carrying out the plan and, finally, looking back at the results.

Reusch, Jurgen; Rees, W. *Nonverbal communication: notes on the visual perception of human relations*. Berkeley, Calif., University of California Press, 1956.

This is one of the first and still among the most valuable works to show how facial gestures, body language, clothing and objects communicate. It categorizes them as sign language, action language and object language, and discusses communication among individuals in different sizes of groups, on up through society in general. One part looks at possible uses of nonverbal language in psychotherapy.

Rogers, Everett M. *Modernization among peasants: the impact of communication*. New York, Holt, Rinehart & Winston, 1969.

Rogers' work extends that of Daniel Lerner, who found communication to be one of five components of modernization in the Middle East. The author reports on a large project he conducted in Colombia and compares his results with studies in India, Kenya and Brazil. He relates different aspects, including literacy, to much of the other research into communication and development. This book serves as a valuable summary of other work as well. However, none of them are very concerned about how communication works to maintain, as well as change, a society.

Schramm, Wilbur; Coombs, Philip H.; Kahnert, Friedrich; Lyle, Jack. *The new media: memo to educational planners*. Paris, Unesco: International Institute for Educational Planning, 1967.

Analysing a world survey conducted by Unesco's IIEP, with the help from USAID,

Schramm and his co-authors discuss how the new media, 'which place a machine or other electronic device in the communication process . . . to extend a student's sight and hearing through space and time . . .' are being and should be used in development. Problems addressed include: literacy; costs and planning of projects. The book was written primarily for high-level planners, but educators at other levels may find it useful too. Discusses projects in Australia, France, India, Italy, Japan, Nigeria, Switzerland, Thailand, United States and West Africa.

Segall, Marshall H., et al. *Influences of culture on visual perception.* Indianapolis, Indiana, Bobbs-Merill, 1966.

This reports on a study in Africa where visual illusions were used to investigate cultural variations in visual perception. It includes summaries of prior work related to cultural variations in visual cognition and perception.

Shorr, Jon; Ferguson, Roy. *Visual communication activities for elementary schools.* New York, William H. Sadlier, 1977.

This elementary American curriculum, clearly written and well illustrated, introduces simply many important visual communication concepts. The suggested activities emphasize photography, but demonstrate principles and techniques of controlling pictorial information that are often just as valid without film. Examples: some ways to communicate ideas through pictures and sequences of pictures, some relationships among shapes and meaning, some differences between a written word, a drawing and a photograph as communication. The appendixes give simple explanations of various approaches and techniques.

Smith, A. F. *Communication and culture.* New York, Holt, Rinehart & Winston, 1966.

A collection of mostly theoretical articles covering a wide range of approaches to communication, including cybernetics, the communication process, social-psychological theory of cultural communication and the semiotic theory of signs.

Unesco. *Reports and papers on mass communication.* Paris, Unesco.

The series deals with many problems and issues in mass communication around the world. It reports on conferences and projects. Many of the papers are of particular concern to the developing world.

Resource centres for additional information

Africa

ALECSO (Arab League Educational, Cultural and Scientific Organization), 109 Tahrir Street, Dokki-Cairo, Arab Republic of Egypt.

ARLO (Arab Literacy and Adult Education Organization), 1 Shihab Street, Dokki-Giza, Arab Republic of Egypt.

ASFEC (Regional Centre for Functional Literacy in Rural Areas for the Arab States), Sirs-el-Layyan, Menoufia, Arab Republic of Egypt.

Unesco Regional Office for Education in Africa (BREDA), Boîte postale 3311, Dakar, Senegal.

Asia

Unesco Regional Office for Education in Asia, P.O Box 1425, Bangkok, Thailand.

Europe

Unesco Mass Communication Clearing House, Place de Fontenoy, 75700 Paris, France.

Latin America

CREFAL (Regional Centre for Functional Literacy in Rural Areas of Latin America), Patzcuaro, Michoacan, Mexico.

Instituto Latúnoamericano de la Communicación Educativa, A.P. 18862, 18 Districto Federal, Mexico.

CREA (Centro Regional De Educación de Adultos), Ministerio de Educación de Adultos, Caracas, Venezuela.

International

IIALM (International Institute for Adult Literacy Methods).